AUFSTIEG UND NIEDERGANG DER RÖMISCHEN WELT

II.9.2

AUFSTIEG UND NIEDERGANG DER RÖMISCHEN WELT

GESCHICHTE UND KULTUR ROMS IM SPIEGEL DER NEUEREN FORSCHUNG

II

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VON
HILDEGARD TEMPORINI
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Vorbemerkung

Der zweite Halbband des Bandes II 9 von 'Aufstieg und Niedergang der römischen Welt' (ANRW) erscheint hier mit einem Abstand von gut 2 Jahren nach dem ersten Halbband (II 9,1 [Berlin-New York 1976]). Die Verzögerung des Erscheinens und die inhaltliche Zusammensetzung dieses Halbbandes bedürfen wohl auch nach den Bemerkungen im Vorwort zu Bd. II 9,1 (S. VII) einer kurzen Erklärung. Seit Herbst 1976 befand sich der Beitrag von MANFRED G. RASCHKE, der allein den weitaus größten Teil (775 von insgesamt 833 Seiten) des Bandes II 9,2 einnimmt, im Satz, weil sich die Entstehung des großen Anmerkungsapparates (unten S. 681—1076), der Bibliographie und der Indices (unten S. 1076—1361) noch unerwartet lange hinzog, als der Haupttext (unten S. 605—681) schon fertig vorlag. Der außergewöhnliche monographische Umfang des von ERNST BADIAN vermittelten und nachdrücklich geförderten Beitrags dürfte im Rahmen dieses Werkes dadurch gerechtfertigt sein, daß er unter dem allgemeinen Titel 'New Studies in Roman Commerce with the East' einen Stoff behandelt, dem sonst mehrere durchschnittlich bemessene Einzelbeiträge zur politischen, wirtschaftlichen und kulturellen Geschichte des römischen Reiches in seinen Beziehungen zum Mittleren und Fernen Osten gewidmet sein sollten. Als weit ausholende wirtschaftsgeschichtliche Arbeit schließt der Beitrag auch nachträglich eine Lücke, die bisher in dem Programm der Rubrik 'Politische Geschichte' des II. Teils von ANRW (bereits erschienen die Bände II 1—II 8) bestanden hat. Mehr als ein Drittel seines Umfangs geht schließlich darauf zurück, daß der Verfasser auf ausdrücklichen Wunsch der Herausgeber die Bibliographie und die detaillierten Indices angefertigt hat, die das reiche in den Anmerkungen dargebotene Material primären und sekundären Charakters leichter zugänglich machen. Das Nebeneinander der thematisch verwandten Beiträge von MANFRED RASCHKE und JOHN FERGUSON ('China and Rome', unten S. 581—603) mag für den Leser methodischen und wissenschaftsgeschichtlichen Reiz haben.

Der Verlag de Gruyter hat für die Herstellung dieses Halbbandes eine besondere Leistung an Geduld (vor allem durch seinen Abteilungsleiter Prof. HEINZ WENZEL) und an materiellen Investitionen erbracht, die ihm hoffentlich durch das Interesse, das der ganze Band II 9 in der wissenschaftlichen Welt finden wird, gelohnt werden.

Tübingen, im Dezember 1978 H. T.

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POLITISCHE GESCHICHTE

(PROVINZEN UND RANDVÖLKER: MESOPOTAMIEN, ARMENIEN, IRAN, SÜDARABIEN, ROM UND DER FERNE OSTEN [FORTS.])

Die entdeckungsgeschichtlichen Voraussetzungen des Indienhandels der römischen Kaiserzeit

von Albrecht Dihle, Heidelberg

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Zwei Perioden der griechisch-römischen Geschichte gibt es, in denen die Verbindung zwischen Indien und der Welt am Mittelmeer besondere Bedeutung gewann. Durch den Alexanderzug und durch die diplomatische Aktivität der Diadochen trat Indien recht eigentlich in das Bewußtsein des Westens, und der literarische Reflex, den diese 'Entdeckung' auslöste — vor allem in der Alexandergeschichte und im Bericht des Megasthenes — hat das Bild Indiens in der abendländischen Tradition bis ins Mittelalter hinein bestimmt[1]. Die engen Beziehungen kommerzieller Art, die etwa zwei Jahrhunderte lang in der frühen und hohen Kaiserzeit zwischen dem griechisch-römischen Ägypten und dem indischen Subkontinent bestanden[2], haben zwar in der literarischen Tradition des Westens nur geringe Spuren hinterlassen, jedoch Indien und darüber hinaus dem buddhistischen Asien vielfältige Anregungen zukommen lassen[3]. Auch die Voraussetzungen für das erste Eindringen des Christentums in den indischen Subkontinent gehören in den Zusammenhang jener Handelsbeziehungen[4]. Es braucht hier nicht erörtert zu werden, ob der indisch-mittelasiatische 'Hellenismus', den vor allem die bildende Kunst mehrerer asiatischer Länder z. T. bis in die zweite Hälfte des 1. Jahrtausends hinein bezeugt, mehr vom Indienhandel des Römischen Reiches während der ersten beiden nachchristlichen Jahrhunderte angeregt wurde, oder ob den griechischen Siedlungen, die in Ostiran und Nordwestindien während der letzten vorchristlichen Jahrhunderte bestanden, hierbei eine besondere Rolle zukommt. Die archäologische Erschließung jener Gebiete steckt noch in den Anfängen[5], und deshalb muß man vorerst mit seinem Urteil zurückhalten. Als sicher aber darf gelten, daß die Frequenz des Handels zwischen dem Römischen Reich und Indien, wie er sich auf der Monsunroute während der beiden ersten nachchristlichen Jahrhunderte entfaltete, in der übrigen griechisch-römischen Geschichte ohne Parallele ist. Die Intensität dieser Beziehungen ist uns durch Ausgrabungen und Münzfunde in Indien, durch gelegentliche Zeugnisse in Papyri und Inschriften[6], durch den Periplus des Roten Meeres, durch Einzelangaben griechisch-römischer Autoren wie Plinius und Ptolemaios, sowie durch indische Quellen hinlänglich bezeugt[7]. Der Handel quer über den Indischen Ozean bedeutete fraglos einen unverächtlichen Faktor in der Außenwirtschaft des Römischen Reiches, denn er beschränkte sich keineswegs, wie es nach Plinius' Klagen den Anschein haben könnte, auf den kostspieligen Import indischer Luxuswaren in das Römerreich. Der Periplus des Roten Meeres zeigt vielmehr, daß ausgesprochene Massengüter landwirtschaftlicher und gewerblicher Erzeugung regelmäßig zu Schiff nach Indien verfrachtet wurden[8].

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[1] A. Dihle, The Conception of India in Hellenistic and Roman Literature, Proc. Cambr. Phil. Soc. 10, 1964, 15ff. Zur Bedeutung des diplomatischen Verkehrs zwischen den Mauryas und den hellenistischen Staaten vgl. F. F. Schwarz, Mauryas und Seleukiden. Probleme ihrer gegenseitigen Beziehungen, in: Studien zur Sprachwissenschaft und Kulturkunde. Gedenkschrift für W. Brandenstein, Innsbruck 1968, 181ff. mit reichen Literaturangaben sowie Ders., Die Griechen und die Maurya-Dynastie, bei F. Altheim und R. Stiehl, Geschichte Mittelasiens im Altertum, Berlin 1970, 267—316.

[2] Zusammenfassend Mortimer Wheeler, Rome beyond the Imperial Frontiers, London 1956.

[3] Vgl. etwa die von K. Fischer, Gnom. 38, 1966, 279ff. besprochenen Werke, sowie die ältere Arbeit von G. Combaz, L'Inde et l'Orient Classique I/II, Paris 1957, vor allem I 7ff.

I. Die Monsunpassage

Doch weniger von der Bedeutung und den Auswirkungen des kaiserzeitlichen Indienhandels soll hier die Rede sein als von seinen Voraussetzungen. Es ist bekannt und wird von Plinius genau beschrieben, daß die zahlreichen Schiffe, die alljährlich die Fahrt über den Indischen Ozean antraten, sich des regelmäßig wehenden Monsuns bedienten, den man nach seinem Entdecker den Hippalos nannte. So sicher es ist, daß der Monsun in frühhellenistischer Zeit den Griechen unbekannt war, so umstritten ist bis heute das Datum seiner Entdeckung geblieben. W. Otto und H. Bengtson versuchten in einer vielbeachteten Studie zu zeigen[9], daß die erste Überquerung des Indischen Ozeans, die dem Kapitän Eudoxos aus Kyzikos am Ende des 2. Jh. v. Chr. gelang und von der ein auf mündlichen Erkundigungen beruhender Bericht des Poseidonios bei Strabon erhalten ist (Fgr Hist 87 F 28), auch die Entdeckung der Monsunpassage bedeutet habe und der von Plinius und dem Verfasser des Periplus erwähnte Steuermann Hippalos in den Kreis des Eudoxos gehören müsse. Andere[10] schreiben demgegenüber erst der Zeit des Claudius die Entdeckung des Monsuns und damit den Steuermann Hippalos zu und erinnern an Plinius' Bericht (6, 84), nach dem in eben dieser Zeit eine direkte Seeverbindung zur Insel Ceylon zustande kam[11].

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[4] A. Dihle, Neues zur Thomas-Tradition, Jahrb. f. Ant. u. Chr. 6, 1963, 54ff.

[5] Erstaunliche Einblicke in das geistige Leben der Griechenstädte im fernsten Baktrien gewähren die von L. Robert, De Delphes à l'Oxus. Inscriptions grecques nouvelles de la Bactriane, Compt. rend. acad. inscr. et bell. lett. 1968, 416ff. interpretierten Inschriften. Vgl. ferner die vermutlich baktrisch-griechischen oder parthisch-griechischen Rhyta aus Nysa bei M. Nasson und T. Pugacenskova, Parfjanskie Ritoni Nisi, Moskau 1956.

[6] O. Stein, Indien in den griechischen Papyri, Indologica Pragensia I, 1929, 34ff.; U. Wilcken, Rez. von W. Dittenberger, Orientis Graeci Inscriptiones Selectae I, Leipzig 1903, Arch. f. Pap. 3, 1906, 320ff.

[7] K. A. Nilakanta Sastri, History of South India, Madras ²1958, 93, 112f., 126, 133f. und P. Meile, Les Yavanas dans l'Inde Tamoule, Journ. Asiat. 232, 1940, 85ff.

[8] M. P. Charlesworth, Trade Routes and Commerce of the Roman Empire, Cambridge 1924, 58ff.

Man muß, um diese Frage mit einem möglichst hohen Wahrscheinlichkeitsgrad zu beantworten, von folgenden Zeugnissen ausgehen:

1. Eudoxos hat seine Fahrt über den Indischen Ozean nach einigen Jahren wiederholt. Schon dieser Umstand spricht dafür, daß mit der Entdeckung der Direktpassage auch der Monsun entdeckt wurde.

2. Die Ptolemäer erkannten offenbar bald die handelspolitische Bedeutung dieses Unternehmens, denn schon im frühen 1. Jh. v. Chr. wurde die Verwaltung der Küstenregionen des Roten Meeres reorganisiert und erhielt der Epistratege der Thebais die Aufsicht ἐπὶ τῆς Ἐρυθρᾶς καὶ Ἰνδικῆς θαλάσσης[12], eine Nomenklatur, die es in der ptolemäischen Verwaltung zuvor nicht gegeben hatte.

3. Strabon bezeugt (2, 5, 12), daß bereits zur Zeit der ägyptischen Statthalterschaft des Cornelius Gallus (30—27 v. Chr.) jährlich 120 Schiffe aus

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[9] W. Otto/H. Bengtson, Zur Geschichte des Niedergangs des Ptolemäerreiches, Abhandlungen der Bayer. Akad. d. Wiss. 17, München 1938, 195ff.; J. H. Thiel, Eudoxus van Cyzicus (Meded. Nederl. Akad., Letterkde. N.R. 2, 8) Amsterdam 1939, 187ff.; M. Laffranque, Poseidonios, Eudoxe de Cyzique et la circumnavigation de l'Afrique, Rev. philos. 153, 1963, 199ff. und Dies., Poseidonios d'Apamée. Essai de mise au point, Publ. Fac. des Lettres de Paris, Paris 1965, 182.

[10] s. u. S. 568f.

[11] Der Name des Steuermanns Hippalos erscheint im Periplus des Roten Meeres (57), und zwar als der des Entdeckers der Passage über den Indischen Ozean. Bei Plinius (6, 100) trägt der Wind, also der Monsun, mit dem die Indienfahrer jedes Jahr um dieselbe Zeit segeln, diesen Namen. Dazu kommt die Bezeichnung Ἵππαλον πέλαγος bei Ptolemaios (4, 7, 41), mit der die Gewässer östlich der arabisch-ostafrikanischen Küste gemeint sind, an die sich östlich das Ἰνδικὸν πέλαγος anschließt. (Ähnlich Itin. Alex. 110 Volkm.) Aller Wahrscheinlichkeit nach ist die Lesart Ἵππαλον πέλαγος gegenüber Ἱππαλος πέλαγος zu bevorzugen (vgl. R. Delbrueck, Südasiatische Seefahrt im Altertum, Bonn. Jb. 155/56, 1955/56, 44).

[12] Vgl. die Texte bei R. Hutmacher, Das Ehrendekret für den Strategen Kallimachos, Beiträge zur klass. Philol., Meisenheim 1965.

Alexandrien nach Indien segelten, während vorher, d. h. zur Ptolemäerzeit, nur wenige diese Fahrt wagten. (Strabon bringt diesen Wandel mit der Expedition der Römer gegen Südarabien in Zusammenhang, gegen das Land also, dessen Monopol im Zwischenhandel durch den Direktverkehr gebrochen wurde, das sich also einer Ausweitung des Direkthandels solange mit allen Mitteln widersetzt haben wird, als dieser nicht von einer starken Staatsgewalt am Nil gestützt wurde.) Strabons Zeugnis läßt keinen Zweifel daran, daß schon in der Frühzeit der römischen Herrschaft in Ägypten ein stattlicher, regelmäßiger und in seinem Jahresvolumen bestimmbarer Direktverkehr mit Indien bestand, dessen nautische Voraussetzungen jedoch in der späten Ptolemäerzeit bereits gegeben waren.

4. Von den beiden Autoren der hohen Kaiserzeit, die uns die Praxis der Monsunschiffahrt aus eigener Anschauung ausführlich beschreiben, äußert sich der Verfasser des Periplus nicht näher über den Zeitraum, der seit der Entdeckung des Hippalos vergangen war (57). Plinius hingegen liefert eine Geschichte der Monsunschiffahrt (6, 100f.), aus der hervorgeht, daß die allmähliche Erschließung mehrerer Routen im Anschluß an die Entdeckung des Hippalos eine recht lange Zeit in Anspruch nahm (*Hippalum ... secuta aetas ... diu ita navigatum est, donec ...*).

Diese Zeugnisse lassen erkennen, daß die wichtigste Voraussetzung für den extensiven Indienhandel der Kaiserzeit, nämlich die Kenntnis der Monsunpassage, schon im ganzen 1. Jh. v. Chr. bestand. Kleopatras Plan, nach der Niederlage von Aktium nach Indien zu fliehen (Plut. Ant. 81), war so utopisch nicht.

Es stellt sich freilich die Frage, ob die Entdeckung der Monsunpassage durch den Kyzikener Eudoxos wirklich nur vom zufälligen Mißgeschick eines schiffbrüchigen Inders ermöglicht wurde, wie Poseidonios das berichtet, oder ob es auch andere, zwingendere historische Gründe gab.

Plinius und der Autor des Periplus zählen übereinstimmend drei Routen auf, über die der Indienhandel im 1. Jh. n. Chr. abgewickelt wurde: Die eine endete im Gebiet der Indusmündung, die zweite an der Küste des heutigen Gujerat und die dritte, zu jener Zeit wichtigste, die Plinius ausführlich beschreibt, an der Malabarküste im heutigen Kerala. Plinius weiß außerdem zu berichten, daß diese drei Routen eines direkten, also nicht längs der Küste unterhaltenen Schiffsverkehrs nacheinander in Gebrauch gekommen seien, und zwar angefangen im Norden, mit der Route zur Indusmündung. Im Zusammenhang mit dieser Mitteilung, die sich leider nicht mit Hilfe anderer Nachrichten chronologisch präzisieren läßt, verdient der — für sich genommen selbstverständliche — Umstand nähere Erwägung, daß die fortlaufende Einbürgerung neuer Monsunrouten, wie sie Plinius beschreibt und deren Resultat der Periplus bestätigt, die progressive Erkundung der indischen Westküste von Norden nach Süden voraussetzt oder doch impliziert. Ob tatsächlich zuerst die nördliche und zuletzt die südliche Route in Gebrauch kam, läßt sich unabhängig von der Angabe des Plinius nicht bestätigen oder widerlegen. Aber es leuchtet ein, daß der Gedanke, eine direkte, von der Küstenschiffahrt unabhängige Passage von Ostafrika bzw. Südarabien hinüber nach Indien zu benutzen, in dem Augenblick sich aufdrängen mußte, in dem man sich darüber klar wurde, daß die Verbindungslinie zwischen der Indus-Mündung und dem Kap Kormorin in nord-südlicher Richtung, also ungefähr parallel zur Ostküste Afrikas, verläuft.

Das Bild von der Gestalt Indiens, das die Geographie des Eratosthenes zeichnete, gab dieses Detail verkehrt wieder, und auch Hipparchs Kritik schuf in diesem Punkt keinen Wandel. Eratosthenes' Quellen für den Entwurf einer Topographie Indiens, wie sie im Indien-Buch Strabons in großen Zügen erhalten ist, waren die Alexanderhistoriker — insbesondere der Bericht des Nearch —, die Bücher des Megasthenes und des Daimachos, Androsthenes' und Timosthenes' Beschreibung des Persischen Golfes bzw. des Roten Meeres sowie das Werk des Patrokles[13]. Aus diesem Informationsmaterial entwarf Eratosthenes etwa das folgende Bild Indiens: Die Gangesebene, die als Kernland des Maurya-Reiches durch Megasthenes näher bekannt geworden war, schließt östlich an das Gebiet des Indus und seiner Zuflüsse an. Aus Südindien, das um 300 v. Chr. nicht dem Staat der Mauryas eingefügt war, hatte Megasthenes am Hofe von Pataliputra zwar etliches durch Gesandte, Militärs, Gefangene u. dgl. gehört, und wir lesen heute einen Teil dieser Informationen bei Plinius, Diodor und Arrian. Aber die topographischen Angaben waren so, daß Eratosthenes daraus schließen konnte, daß die südindischen Territorien zwar südlich des Ganges, aber nicht durchweg südlicher als der Unterlauf des Indus gelegen waren.

Onesikritos (FgrHist 134 F 22) hielt die dunkelhäutigen Musikaner am Unterlauf des Indus für die südlichsten Inder. Eratosthenes kannte schon das Kap Kory als südlichsten Punkt Indiens (b. Strab. 15, 1, 14). Diese Kunde gehörte eben zu jenen Informationen, die Megasthenes in Pataliputra aus Südindien sammeln konnte. Aber nach Eratosthenes' Meinung lag dieses Kap nur unwesentlich südlicher, dafür aber weit östlicher als die Indusmündung, denn sein Gesamtbild des Subkontinents entsprach einem Rhombus, dessen Ostseite der Indus, dessen Nordseite der Himalaya (Imaos) und dessen Süd- und Ostseite die Meeresküste bildete. Das Kap Kory war also eher die Südost- als die Südspitze Indiens. Wir werden in anderem Zusammenhang noch darüber zu reden haben, wie sich in dieser Geographie die Lage Ceylons ausnahm, von dem gleichfalls schon Onesikritos, der Steuermann Nearchs, gehört hatte (u. S. 567ff.).

Zwischen Eratosthenes und Hipparch bestanden durchaus Differenzen in der Auffassung von der Größe und Ausdehnung Indiens. Diese beruhten freilich nicht auf neuen Informationen, die Hipparch zur Verfügung gestanden hätten, sondern, wenn dem Bericht Strabons zu trauen ist, auf unterschiedlicher Auswertung der frühhellenistischen Quellen (Megasthenes, Patrokles, Daimachos)[14]. Beide aber rechnen mit der viereckigen, rhombenförmigen Gestalt des Subkontinents, und beide legen die südlichsten Gegenden Indiens auf eine Breite mit Meroë, während sie Ceylon zusammen mit Soqotrā und der Somaliküste (dem Zimtland) 600—700 km weiter südlich ansetzen (Hipp. fr. 43/45 Dicks; Strab. 2, 1, 13f.). Nach dieser Konzeption mußte also jede Fahrt über den Indischen Ozean, die vom Südausgang des Roten Meeres Indien erreichen sollte, das Schiff beträchtlich nach Norden führen, während in Wirklichkeit gerade Muziris an der Malabarküste etwa auf der Breite von Soqotrā lag, Ceylon und auch die Südspitze Indiens um einiges südlicher.

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[13] Androsthenes FgrHist 711; Patrokles FgrHist 721; Megasthenes FgrHist 715; zu Timosthenes vgl. F. GISINGER, R.E. 6 A, 2 (1937) s. v. Timosthenes 1310ff.; zu Daimachos vgl. F. F. SCHWARZ, Griechenland und Indien im Spiegel der antiken Literatur, 36. Jahresbericht des Bundesgymnasiums Fürstenfeld, 1966, 62ff.

An anderer Stelle ist gezeigt worden, wie das frühhellenistische Indienbild, das den Süden weithin unberücksichtigt ließ, die literarische Tradition der Antike völlig beherrschte[15]. Die wissenschaftliche Geographie versuchte demgegenüber, die Entdeckungen der späthellenistischen Zeit und der Periode des Kaiserreichs, die jenen Entwurf gründlich korrigierten, gebührend zu berücksichtigen. Dennoch zeigt selbst Ptolemaios, der die Ost-West-Ausdehnung Vorderindiens über-, seine Nord-Süd-Ausdehnung unterschätzte, die Nachwirkung frühhellenistischer Lehrmeinungen. Endlich pflegten alle Autoren der Kaiserzeit, sofern sie literarische Ambitionen hegten, ihre späthellenistischen Vorgänger nicht nur stilistisch, sondern auch inhaltlich zu diskreditieren und betrachteten zeitgenössische Information eher als Supplement denn als Korrektiv zum Wissensbestand der frühhellenistischen Zeit, wie man das etwa bei Strabon oder Plinius[16] sehen kann. Daß auch die wissenschaftliche Geographie, die Ptolemaios streng von der literarischen Länderbeschreibung trennt (1, 1, 1), oft im Bann des eratosthenischen Entwurfs blieb, liegt einfach daran, daß Eratosthenes als Literat und Wissenschaftler Autorität genoß (Strab. 2, 1, 41 — 2, 2, 1).

II. Die Westküste Indiens

Was nun die Fahrt des Eudoxos am Ende des 2. Jh. v. Chr. angeht, so wird sie verständlicher, wenn damals irgendwelche Kunde von der Süderstreckung der Westküste Indiens in den Westen gedrungen war. Wollte man sich dem Südwestmonsun anvertrauen, so konnte das mit größerer Zuversicht geschehen, wenn man damit rechnen durfte, daß dieser Wind das Schiff dessen, der aus einem Hafen Südarabiens abfuhr, jedenfalls nicht an Indien vorbeizutreiben vermochte, wie das gemäß der Konzeption des Eratosthenes als durchaus möglich erschien. Die Kapitäne der zahllosen Schiffe, die im 1. und 2. Jh. n. Chr. die Monsunfahrt Jahr für Jahr antraten, müssen den wahren Sachverhalt recht wohl gekannt haben.

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[14] Vgl. Strab. 2, 1, 2ff., ein Referat, das Strabons Bevorzugung des eratosthenischen Standpunkts erkennen läßt (2, 1, 9), u. Diod. Sic. 2, 35ff.

[15] Dihle, The Conception of India in Hellenistic and Roman Literature, Proc. Cambr. Philol. Soc. 10, 1964, 15ff. und Ders., Indische Philosophen bei Clemens Alexandrinus, in: Mullus (Festschr. Klauser) = Jahrb. f. Ant. u. Chr., Ergänzungsband 1, Münster 1964, 60ff.

[16] z. B. Strab. 15, 1, 4 und Plin. 6, 84.

Vielleicht hat Eudoxos als erster die Nachricht von der Südausdehnung Indiens mitgebracht. Es gibt aber zwei Zeugnisse, nach denen vermutlich im Laufe des 2. Jh. v. Chr. eine Erkundung der Westküste Indiens in norsüdlicher Richtung stattgefunden hat, so daß Informationen über die Gestalt Indiens, welche die Konzeption des Eratosthenes und des Hipparch in einer wichtigen Hinsicht korrigierten, durchaus vor dem Unternehmen des Eudoxos nach Alexandrien gekommen sein können.

In den 80er Jahren des 2. Jh. v. Chr. begann die Invasion Indiens durch die baktrischen Griechen. Die wichtigste, wenn auch knappe Erwähnung dieses Ereignisses steht in einem der wenigen Fragmente des Historikers, der aus relativ geringer zeitlicher und räumlicher Distanz im Zusammenhang einer Parthergeschichte auch jene Vorgänge beschrieb, im Fragment 7 des Apollodor von Artemita (FgrHist 779). Dieses Fragment ist zweimal bei Strabon überliefert, einmal in der Darstellung Zentralasiens (11, 11, 1) und einmal im Indienbuch (15, 1, 3). Ausführlicher ist überraschenderweise das erste Referat: Wir hören dort, daß die baktrischen Griechen weit mehr indisches Territorium besetzten als Alexander, daß vor allem Menander und Demetrios, der Sohn des Euthydem, als Eroberer hervorgetreten seien, daß der erstgenannte über den Hypanis hinaus bis zum Iomanos (Jumna?) gekommen sei, daß die Griechen nicht nur die Patalene besetzt hätten (das Gebiet des Indusmündung, in das auch Alexander gekommen war), sondern auch von der ἄλλη παραλία die Reiche des Saroastos und des Sigerdis. Der Ausdruck ἄλλη παραλία kann nur das indische Küstengebiet östlich der Indusmündung meinen, das eben ein anderes ist als jenes, das durch Nearchs Bericht in der griechischen Literatur bekannt geworden war. Weder Nearchs noch Androsthenes' Bericht reichte im Osten über die Indusmündung hinaus. In den beiden Herrschernamen bei Apollodor darf man ebensowohl Ethnika oder Toponyme erkennen: Der Taxiles der Alexandergeschichte ist eben auch der Herrscher von Taxila, und der König Soras bei Aelian (s. u.) ein Cōḷa-König[17]. So verweist der Name Saroastos oder Sarastes auf die Syrastrene des Periplus (41; 44) und des Ptolemaios (7, 1, 55), Sigerdis auf das Melizeigara des Periplus (53), das Sigerus des Plinius (6, 100)[18] und Melizigeira des Ptolemaios (7, 1, 95). Saurastra ist bis heute der Name der großen Halbinsel östlich der Indusmündung. Wo das andere Gebiet zu suchen ist, läßt sich nicht genau ausmachen, doch spricht die meiste Wahrscheinlichkeit für die Gegend nördlich von Bombay.

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[17] Vgl. auch den König Pandion, Herrscher der Pandya (Strab. 15, 1, 4), und den Herrscher Ἀρκατός, Eponym des heutigen Arcot (Ptolem. 7, 1, 68).

[18] Diese Identifikation schon bei L. RENOU (La géographie de Ptolémée—L'Inde, éd. L. RENOU, Paris 1925) im Index und bei R. C. MAJUMDAR, Classical Accounts on India, Calcutta 1960, 312; 339; 350. Nicht zugänglich war mir Č. VILJAČIČ, Greek and Roman Information on India, Živa Antika 11, 1961/62, 73ff. und V. VUČKOVAČKI-SAVIĆ, Die Hellenen in Indien, ebd. 355ff. Abweichend A. K. NARAIN, The Indo-Greeks, Oxford 1957, 94.

Es gibt nicht den geringsten Anhaltspunkt, diese Angaben des Apollodor zu bezweifeln. Auch Strabon fällt es nicht ein, Apollodor im Zusammenhang des 11. Buches, wo er seine vielbenutzte Hauptquelle darstellt, zu kritisieren, anders als im 15. Buch[19]. Hier, im Zusammenhang der indischen Geographie, erwähnt er nur die Meinung Apollodors, die Baktrer hätten mehr indisches Territorium erobert als Alexander, und fügt mit deutlicher Mißbilligung hinzu, Apollodor widerspreche den älteren Gewährsmännern und trage zur Kenntnis Indiens nichts Neues bei.

Die beiden Strabon-Referate illustrieren auf das beste die Vorurteile Strabons: Für die Geographie Ostirans und Turkestans ist Apollodor, ein späthellenistischer Autor, die willkommene und unbestrittene Autorität. Die abschließende Kenntnis Indiens hingegen glaubt man den Alexanderhistorikern und den frühhellenistischen Diplomaten zu verdanken, und niemand soll sich unterstehen, hier mehr wissen zu wollen als jene. Eine für das Indienbild so wichtige Nachricht wie die von den Fahrten des Eudoxos über den Indischen Ozean erscheint bei Strabon nicht im Indienbuch, sondern in einem der Einleitungsbücher (2, 3, 4ff.)[20], und die substantiellen Angaben aus Apollodor, auch sofern sie Indien betreffen, stehen im 11. Buch. NARAIN[21] hat sich dem von Strabon im 15. Buch geäußerten Mißtrauen gegenüber der Glaubwürdigkeit Apollodors angeschlossen und demzufolge die Ausdehnung der griechischen Herrschaft über die ἄλλη παραλία bestritten[21]. Strabons Skepsis ist aber lediglich Ausdruck eines in der literaschen Tradition, soweit sie Indien betrifft, lebendigen Vorurteils, und es scheint mir evident, daß es keinen Grund gibt, das Fragment 7a des Apollodor aus dem 11. Buch Strabons für wertlos zu erachten. Daß in dieser Gegend so gut wie keine Münzen der baktrisch-griechischen Dynastie gefunden wurden, ist kein Argument gegen die Glaubwürdigkeit Apollodors. Da jene Münzen in den Häfen der Indusmündung noch im späten 1. Jh. n. Chr. kursierten (Peripl. 47), war die Chance, daß viele von ihnen erhalten blieben, besonders gering.

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[19] Wo es einen Kanon älterer Gewährsleute gibt wie im Fall von Indien, kritisiert Strabon späthellenistische Geographen, die sich zum gleichen Thema äußern, erbarmungslos (15, 1, 72 Artemidor; 15, 1, 3 Apollodor). Dieselben Autoren können in anderen Bereichen seine geachteten — weil eben einzigen — Autoritäten sein (11, 11, 1; 16, 4, 4; 16, 4, 15 u. ö.).

[20] Berühmter als seine Fahrt nach Indien wurde Eudoxos' erfolgloser Versuch, Afrika zu umsegeln, der auch der eigentliche Gegenstand für Poseidonios' Erzählung ist (b. Strab. 2, 3, 4ff.). Auf diese Begebenheit beziehen sich auch Pomponius Mela (3, 90) und Plinius (2, 169), beide mit Berufung auf Cornelius Nepos. Ob sich alle geographischen Notizen, die unter dem Namen eines Eudoxos überliefert sind, säuberlich auf den Knidier, den Zeitgenossen Platons, und den Rhodier aus dem 3. Jh. v. Chr. verteilen lassen, die beide einen Periplus verfaßt haben (Eudoxos von Knidos Fr. 272 LASSERRE, Berlin 1966, und Eudoxos von Rhodos FgrHist 79 F 2—4), erscheint fraglich. Vielleicht muß man die eine oder die andere Stelle doch unserem Kyzikener zuschreiben, der zwar nichts Schriftliches hinterließ, über dessen Fahrten aber Poseidonios ausgiebige Erkundigungen einzog. So mag Aelians Angabe, Eudoxos habe außerhalb der Säulen des Herakles Riesenvögel beobachtet (nat. an. 17, 14), recht wohl über Poseidonios auf den Kyzikener zurückgehen, während die Notizen über ägyptische Opferbräuche (10, 16) und die kleinasiatischen Galater (17, 19) eher dem Rhodier gehören (10, 16 fehlt bei JACOBY).

[21] A. K. NARAIN, The Indo-Greeks, Oxford 1957, 35. Auf S. 78 bemängelt NARAIN mit Recht, in der Nachricht bei Plut. mor. 821 D/E über das indische Begräbnis des Königs Menander erscheine dieser als König von Baktrien, was er nie gewesen sei. Bei Strab. 11, 11, 1, einem Zitat aus Apollodor v. Artemita, trägt er diese Bezeichnung nicht.

Wenn also die Griechen im Laufe des 2. Jh. v. Chr. beträchtliche Teile der indischen Küste östlich der Indusmündung besetzten und beherrschten, spricht alle Wahrscheinlichkeit dafür, daß sie den weiteren Verlauf der Küstenlinie zu erkunden versuchten. Es gibt zwei Zeugnisse, die von dieser Erkundungstätigkeit reden, in deren Verlauf die tatsächliche Süderstrekkung der Westküste Indiens klar werden mußte. In einer völlig isolierten Notiz bei Aelian (hist. an. 15, 8), der sein indisches Material sonst von Ktesias und von frühhellenistischen Autoren bezieht[22], wird uns berichtet, zur Zeit des Königs Eukratides von Baktrien habe es Perlenfischerei beim indischen Perimula gegeben, das zum Reich des Königs Soras gehörte. Der Kontext, aus dem diese Notiz stammt, ist verloren, doch setzt die Erwähnung des Eukratides, einer wohlbekannten Gestalt der griechisch-baktrischen Geschichte, den Inhalt der Information ins 2. Jh. v. Chr. Die Lage des Ortes Perimula hat man vielfach erörtert. Bei Plinius erscheint das *promunturium Perimulae*, wo sich das *celeberrimum Indiae emporium* befinde, als Etappe in der Aufrechnung der gesamten Küstenlinie von der Ganges- bis zur Indusmündung (6, 72), und an anderer Stelle spricht derselbe Plinius von ebendorther stammenden Perlen (9, 106). Wirkliche Sicherheit über die Lage ist nicht zu erreichen, denn die Identifizierung mit dem bei Ptolemaios (7, 1, 6 u. ö.) und im Periplus (53) erscheinenden Simyla, die zuerst McCrindle vorschlug, läßt sich nicht erhärten. Völlig unbezweifelbar aber erscheint nach den Distanzangaben des Plinius, daß dieser Hafen an der Westküste Süd- oder Zentralindiens gelegen haben muß[23]. Der Name des Königs Soras kann wohl nur auf die Cōḷa verweisen, das wichtigste unter den Tamilreichen des alten Südindien. Daß ein Cōḷa-Staat im 2. Jh. v. Chr., der seinen Schwerpunkt fraglos im Südosten des

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[22] Späthellenistische Gewährsleute sind bei Aelian insgesamt selten. Für Indisches werden sie außer an der besprochenen Stelle 15, 8 nur noch 16, 16 in Anspruch genommen, für andere Details aus Asien und Afrika in 11, 25 (Juba), 17, 1 u. ö. (Alexander von Myndos, vgl. F. Wellmann, Alexander von Myndos, Hermes 26, 1891, 546ff.), 17, 6 (Theokles), 17, 30 (Zenothemis). Polyklet von Larissa, aus dem Aelian gleichfalls eine Nachricht über Indien bringt (16, 41), gehört in die Zeit vor Patroklos (Jacoby im Kommentar zu FgrHist 128 F 11).

[23] O. Stein, R.E. 19 (1937) s. v. Περιμούλα, 799ff. Daß Perimula an der Koromandelküste zu suchen sei, wie R. Delbrueck meint (Bonn. Jb. 155/56, 1955/56, 49), erscheint angesichts der Entfernungsangaben des Plinius ganz ausgeschlossen. Plinius sagt, daß Perimula 2650 Meilen von der Gangesmündung und nur 620 Meilen von der Indusmündung entfernt liege, wobei diese Distanzen längs der Küste gemessen sind (6, 72). So unsicher die Angaben über die Teilstrecken auch sein mögen, ohne die Annahme einer gänzlichen Verwirrung aller Informationen kann man auf Grund des Pliniustextes Perimula nicht am Golf von Bengalen vermuten.

Subkontinentes hatte[24], mit seinen Außenposten bis an die Westküste des Deccan reichte, braucht nicht zu verwundern. Zwar beginnt die reichere Dokumentation der Cōḷa-Geschichte erst in den ersten nachchristlichen Jahrhunderten, aber die Existenz eines unter diesem Namen bekannten Reiches in Südindien ist durch Aśoka-Inschriften sowie durch tibetisch-buddhistische Quellen für die Maurya-Zeit, also das 3. und frühe 2. Jh. v. Chr., bezeugt[25]. Offenbar darf man auch vermuten, daß der Machtbereich der Cōḷa zeitweilig im heutigen Staat Mysore, und zwar etwa bei der Stadt Mangalore[26], bis an die Ostküste Indiens reichte. Die Cōḷa waren Jahrhunderte lang die wichtigsten Träger der weitausgreifenden indischen Seefahrt und Kolonisation[27]. Bei Ptolemaios hört man von einer Stadt Perimula an einer Bucht im Osten der Halbinsel Malakka (7, 2, 5). Es ist nicht ausgeschlossen, daß es sich hier um eine Kolonie der Cōḷa handelt.

Die bei Aelian (nat. an. 15, 8) erhaltene Nachricht bezeugt[28], daß im 2. Jh. v. Chr., und zwar offensichtlich im Anschluß an die zweite griechische Invasion Indiens, griechische Schiffer die Westküste Indiens entlang fuhren, aus deren Berichten Informationen über diese Gegenden in die Literatur kommen konnten.

Das andere Zeugnis für griechische Seefahrt an der Westküste Indiens vor der Entdeckung der Direktpassage läßt sich aus Ptolemaios gewinnen (1, 7, 6), der sich an dieser Stelle auf Marinos von Tyros bezieht. Es heißt dort, Diodor von Samos schreibe im dritten Buch seines Werkes, daß man auf der Fahrt von Arabien nach Azanien und auf der von der Indike zur Limyrike bestimmte Konstellationen am Nachthimmel beobachte. Ob Diodor selbst ein Seemann war, der wie Nearch oder Onesikritos über seine Fahrten schrieb, oder ob er Fahrtberichte anderer literarisch verwertete[29], läßt sich nicht mehr bestimmen. Doch können wir diese Frage ebenso beiseite lassen wie die nach dem Inhalt der astronomischen Beobachtungen[30], die hier mitgeteilt werden. Aufschlußreich ist die geographische Terminologie, die Diodor verwendete.

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[24] Σῶρα, das βασίλειον Ἀρκατοῦ im Gebiet der Σῶραι bei Ptolem. 7, 1, 68, liegt tatsächlich im Kerngebiet der Cōḷa südlich Madras, und Ἀρκατός mag dasselbe Wort sein wie der heutige Ortsname Arcot. Freilich warnt K. A. Nilakanta Sastri, The Colas, Madras ^{2}1955, 22ff. vor allzu schneller topographischer Interpretation der Namensgleichung.

[25] K. A. Nilakanta Sastri, The Colas, Madras ^{2}1955, 18ff. und Ders., History of South India, Madras ^{2}1958, 5ff.; 16ff.

[26] V. A. Smith—S. M. Edwards, The Early History of India, Oxford ^{4}1924 (Neudruck 1962) 480ff.

[27] Nilakanta Sastri a. O. 85ff.; R. C. Majumdar, Ancient Indian Colonies in the Far East I, Lahore 1927, und G. Coédès, Les états hindouisés d'Indochine et d'Indonésie, Paris ^{3}1964, 20ff.

[28] Zur Perlengewinnung Südindiens vgl. K. A. Nilakanta Sastri, The Pandyan Kingdom, London 1929, 35.

[29] Diodor von Samos mag der Namensgeber der νῆσος Διοδώρου im südlichen Roten Meer sein (Peripl. 4; Ptolem. 4, 8, 38). Von dem Periegeten Diodor, dessen Werk περὶ δήμων Harpokration ausgiebig zitiert, ist er mit Sicherheit zu trennen (FgrHist 372). Der Perieget gehört ins 3. Jh. v. Chr.

[30] Diese Beobachtungen im Hinblick auf den Verlauf der Entdeckungsgeschichte auszuwerten, ist nicht leicht, denn schon die Quellenautoren des Eratosthenes streiten sich darum, ob in den Gewässern Indiens bestimmte Erscheinungen des Sternhimmels der Aequa-

Limyrike, Dimyrike oder richtiger Damyrike — Limyrike ist wohl nur eine Verschreibung — bezeichnet bei allen kaiserzeitlichen Autoren wie dem Verfasser des Periplus, Ptolemaios, dem Quellenautor der Tabula Peutingeriana[31], dem Kosmographen von Ravenna usf. mit aller wünschenswerten Eindeutigkeit die Malabarküste, lange Zeit das wichtigste Zielgebiet des Monsunhandels. Das zugrunde liegende Sanskritwort *dramidaka* verweist auf die Tamil-Bevölkerung. Diejenigen Historiker und Geographen, die ihre Indien-Informationen vornehmlich frühhellenistischen Quellen entnehmen[32], kennen den Namen Limyrike hingegen nicht (Strabon, Diodor, Plinius, Arrian), einfach weil für sie das Indienbild des Megasthenes bzw. das davon abhängende des Eratosthenes mit den Korrekturen Hipparchs verbindlich blieb[33]. Aber überall da, wo kaiserzeitliche Autoren von der Limyrike reden, herrscht für sie nicht der geringste Zweifel daran, daß es sich um einen Teil Indiens handelt. Im Sprachgebrauch der Kaiserzeit klingt die Ausdrucksweise des Samiers Diodor etwa so, als ob man heute über eine Reise von Deutschland nach Hessen redete. Die Griechen haben wie die Semiten der Alten Welt das Wort Indien aus dem Iranischen entlehnt, wo die epichorische Bezeichnung des Indus bzw. des Indusgebietes statt ihres originalen anlautenden '*s*' ein '*h*' erhalten hatte, das dann seinerseits der Psilose unterliegen konnte. Die Griechen zögerten indessen späterhin keinen Augenblick, das Wort Indien, also den Namen des ihnen bis zum Alexanderzug allein bekannten Indusgebietes, auch auf die Gangesebene zu übertragen, deren Existenz und Ausdehnung sie im Zusammenhang mit der Umkehr Alexanders zu ahnen begannen[34]. Megasthenes und die anderen Diplomaten frühhellenistischer Zeit fühlten sich demzufolge in Indien, als sie sich am Hof von Pāṭaliputra aufhielten, und sie bezogen die Nachrichten aus dem Süden, über die Andhra, die Pandya, das Kap Kory u. dgl., die sie dort hören konnten, von vornherein auf Indien. Das zeigt sich in den entsprechenden Abschnitten bei Diodor und Plinius. Ja, als der Kapitän Alexandros in der Zeit um 100 n. Chr. in die Gewässer jenseits der Straße von Malakka vordrang, rechnete er die dabei entdeckten Territorien,

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torialzone oder gar der südlichen Halbkugel zu beobachten seien, obgleich keiner von ihnen viel südlicher gekommen ist als die Indusmündung.

[31] Die Peutingersche Tafel, hgg. v. K. Miller, Stuttgart 1916.

[32] Gute Übersicht über diesen Quellenbereich bei F. F. Schwarz (oben Anm. 13), Jahresbericht d. Bundesgymnasiums Fürstenfeld, 1966, 62ff.

[33] Das, was in den Indienkapiteln bei Plinius nicht frühhellenistischer Herkunft ist, hebt sich auch in der Komposition als Zusatz ab. Strabon geht über die frühhellenistische Indienkonzeption nur dort hinaus, wo entweder Indien nicht das Hauptthema ist wie im 2. oder 11. Buch, oder wo er punktuell gegen Poseidonios, Artemidor und Apollodor polemisiert.

[34] Vgl. F. Schachermeyr, Alexander und die Ganges-Länder, in: Natalicium C. Jax septuagenario a. d. VII. Kal. Dec. MCMLV oblatum, Pars I, Innsbruck 1955, 123—135, jetzt in: Alexander the Great, The Main Problems, ed. G. T. Griffith, Cambridge 1966, 137—149.

solange er ihre Küstenlinie verfolgen konnte[35], unbesehen zu Indien, so wie man das schon vorher mit der Goldenen Chersonnes (s. u. 574ff.) getan hatte (Ptolem. 1, 14). Noch heute sprechen wir von Hinterindien[36], weil Ptolemaios diese Landmasse als 'Indien hinter dem Ganges' klassifiziert hat[37].

Dafür, daß man in der Tradition griechischer Geographie vor dem 2. Jh. n. Chr. irgendwann Ἰνδία, Ἰνδική erneut, also nach einer inzwischen erfolgten Ausdehnung des Geltungsbereiches, speziell zur Benennung des Indusgebietes herangezogen habe, fehlt jeder Anhaltspunkt. Zwar bezeichnet der Verfasser des Periplus, der der literarischen Konvention fern steht, den Indus entgegen dem üblichen Sprachgebrauch mit dem direkt aus einer indischen Sprache entlehnten Namen Σίνθος (38), während Plinius diese Nomenklatur eigens erläutert (6, 71): *Indus incolis Sindus appellatus*[38]. Die uns heute geläufige Differenzierung zwischen Indien und Sindh war den Griechen und Römern fremd. Sie war das Ergebnis der in weitem zeitlichen Abstand erfolgten zweiten Entlehnung desselben indischen Toponyms, diesmal ohne den Umweg über eine iranische Sprache. Diese zweite Entlehnung scheint in den Zusammenhang des mesopotamisch-nordindischen Seehandels zu gehören und in parthisch-sasanidischer Zeit stattgefunden zu haben[39], denn die Differenzierung zwischen Indien und Sindh ist zuerst in der syrischen Chronographie und bei frühislamischen Geographen bezeugt[40], fehlt aber bei den griechischen und lateinischen Autoren der römischen Kaiserzeit. Auch für den Autor des Periplus bedeutet Ἰνδική das ganze Indien (26; 41 u. ö.). Betrachtet man unter dieser Voraussetzung die Angaben des Diodor, so liegt der Schluß nahe, hier werde aus dem Bericht eines Seefahrers zitiert, der eine Fahrt von Nordwestindien, also wohl von der Indusmündung aus, in südlicher Richtung angetreten hat und zur Malabarküste gelangt ist, ohne jedoch Gewißheit zu haben, ob und wie das Küstenland, dessen epichorischen Namen er erfragt hat, mit dem Indien, von dem er ausgefahren ist, zusammenhängt. Das gilt auch deshalb, weil der Name Limyrike (Damyrike) offenbar nicht zu der Informationsmasse gehörte, die Megasthenes und andere Gesandte aus dem Westen am Maurya-Hof gesammelt hatten, ohne selbst in den Süden gekommen zu sein.

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[35] Kattigara, das Alexandros dann nach einer Fahrtstrecke von etlichen Tagen erreicht hatte, die nicht an der Küste entlang führte, wurde bezeichnenderweise nicht zu Indien gerechnet (vgl. Marc. Peripl. 1, 16).

[36] Vgl. auch die Einleitung der Passio Bartholomaei, wo diese Nomenklatur für die geographischen Vulgärvorstellungen der Spätantike bezeugt ist.

[37] Freilich, Inseln pflegte man normalerweise mit eigenem Namen aufzuführen und nicht unbesehen der Sammelbezeichnung des nächstgelegenen Kontinentes zu subsumieren. So rechnete man von Anfang an — also seit den diesbezüglichen Angaben des Onesikritos — Ceylon eben nicht zu Indien, sondern benannte es mit anderen, wechselnden Namen. Zur Frage, ob Ceylon als Teil eines Südkontinentes zu betrachten sei, s. u. Anm. 69.

[38] Σίνθων heißt bei Ptolemaios ein Arm des Indus-Deltas (7, 1, 2).

[39] Proc. Cambr. Phil. Soc. 10, 1964, 15f.

[40] S. Lévi, Problèmes indo-hébraïques, Rev. ét. juiv. 82, 1926, 49ff. und A. Dihle, Neues zur Thomas-Tradition, Jahrb. f. Ant. u. Chr. 6, 1963, 58 mit weiterer Literatur.

III. Ostafrika

Die andere Route, von der Diodor in seinem Berichte sprach, führte von Arabien nach Ostafrika. Der in diesem Zusammenhang verwendete Name Azanien zur Bezeichnung der Somaliküste taucht freilich erst im Periplus und bei Ptolemaios, also in der Kaiserzeit, auf. Er fehlt bei Autoren wie Strabon und Diodor v. Sizilien, die das Wissen der hellenistischen Zeit zusammenfassen. Der auf Eratosthenes zurückgehende Bericht über Arabien und das Rote Meer, der bei Strabon bis 16, 4, 4 reicht, endet zwar im Golf von Aden, also außerhalb des Bāb el Mandeb, läßt aber kein klares Wissen vom Kap Guardafui und dem weiteren Verlauf der afrikanischen Ostküste erkennen[40a]. Strabon gibt im Anschluß an diese Perikope eine Beschreibung derselben Gegend, die sich auf Artemidor von Ephesos stützt, also einen Autor der Zeit um 100 v. Chr. (6, 4, 5—14). Hier finden sich zusätzliche Informationen, insbesondere über die afrikanische Küste zwischen Bāb el Mandeb und Kap Guardafui, das den Namen Νότου κέρας trägt und als Endpunkt der erforschten Küste gilt, obwohl deren Umbiegen nach Süden bekannt ist (14 Ende). Es läßt sich nicht mit Sicherheit ausmachen, ob diese Erweiterung des geographischen Horizontes erst bei Artemidor literarisch greifbar wurde oder vielleicht schon bei Agatharchides zwei Jahrzehnte früher dokumentiert war. Sicher ist, daß im 2. Jh. v. Chr. eine gewisse Forschungstätigkeit an der ostafrikanischen Küste stattfand, durch welche die bei Polybios bezeugte Diskussion um die Bewohnbarkeit der Aequatorialzone neue Nahrung erhielt[41]. Ob allerdings Agatharchides Details außerhalb des Bāb el Mandeb erwähnte, ist zweifelhaft, schon deshalb, weil seine Schrift über das Rote Meer, soweit sie uns erhalten ist, erstaunlich wenige topographische und toponymische Hinweise gibt. Eine Erwähnung des Kap Guardafui findet sich bei ihm nicht[42], wohl aber ein Passus über die Insel Soqotrā, wie D. WOELK nachgewiesen hat[43]. Es ist aber recht wohl möglich, daß Agatharchides die Insel im Zusammenhang mit der arabischen Küste und nicht von Afrika her beschrieb. Eindeutiger ist der Befund in den Resten des Artemidor, die sich bei Strabon erhalten haben. Hier findet sich das erste Mal ein eindeutiger Hinweis auf das Kap Guardafui (νότου κέρας), und Strabon sagt ausdrücklich (16, 4, 4), daß Artemidor als erster den Hafen Okelis im heutigen Yemen (Ἄκιλα) in die geographische Diskussion eingeführt habe.

[40a] Zur Ausdehnung der im Binnenland erworbenen Kenntnis Ostafrikas in hellenistisch-römischer Zeit vgl. J. DESANGES, Le statut et les limites de la Nubie romaine, Chron. d'Eg. 44, 1969, 139—144 und DERS., Les chasseurs d'éléphants d'Abou-Simbel, Act. du 92. congr. nat. des soc. sav., Strasbourg et Colmar 1967, Sect. d'archéol., Paris 1970, 31—50.

[41] Gemin. Elem. 16; Strab. 2, 2, 2.

[42] So schon WINDBERG, R.E. 17, 1 (1936) s. v. Νότου κέρας, 1120ff.; anders, aber verfehlt R. DELBRUECK, Südasiatische Seefahrt im Altertum, Bonn. Jb. 155/56, 1955/56, 33.

[43] Phot. bibl. p. 459 BEKKER, dazu: Agatharchides, Über das Rote Meer, Übersetzung und Kommentar von D. WOELK, Diss. Freiburg 1966, 250ff. Man kann WOELKS Nachweis durch den Hinweis auf Peripl. 30 stützen, wo für das späte 1. Jh. n. Chr. eine arabisch-indisch-griechische Mischbevölkerung auf Soqotrā bezeugt wird. Das paßt zu Agatharchides' Angabe, die Insel stehe in engem und direktem Kontakt mit Indien. Weder Agatharchides noch der Verfasser des Periplus wenden den Indernamen unbesehen auf die Anrainer des Roten Meeres an.

Jedenfalls läßt sich nicht übersehen, daß genau in der Zeit, in der die Fahrten des Eudoxos von Kyzikos stattfanden, sich die Kenntnis der Küste Ostafrikas erweiterte und neue Informationen über die Geographie Südarabiens in der griechischen Welt bekannt wurden. H. v. WISSMANN hat den letztgenannten Umstand mit politischen Ereignissen in Südarabien in Verbindung gebracht[44]. Man muß aber festhalten, daß der Name Azanien in den Quellen, die sich zweifelsfrei auf diese Periode zurückführen lassen, nicht bezeugt ist.

Plinius' Beschreibung des Roten Meeres und seiner beiden Küsten ist schwer zu analysieren[45], weshalb die drei Stellen, an denen bei ihm der Name Azanien begegnet, sich nicht ohne weiteres einer datierbaren Quelle zuweisen lassen.

Die erste Stelle (6, 108) gehört in eine durch den jeweiligen Neueinsatz in 107 und 112 recht klar abgegrenzte Perikope, die der Nordküste des Persischen Golfes gewidmet ist. Dieses Gebiet hatte seinen Klassiker in der geographischen Literatur, nämlich Nearchos, den Admiral Alexanders, und dementsprechend gewinnt man den Eindruck, daß diese Plinius-Perikope im wesentlichen von Nearch abhängt. Der letzte Satz verweist auf den Umstand, daß nunmehr die Parther dort herrschen, und die folgende, hinsichtlich ihrer Quellen uneinheitliche Perikope (112—137) umfaßt das ganze Partherreich, so daß einige der im Vorhergehenden erwähnten Landschaften erneut behandelt werden. Die Erörterung der Größenverhältnisse in diesem Gesamtgebiet beruft sich folgerichtig auf Agrippa, also eine frühkaiserzeitliche Quelle. Die Diskussion geographischer Größenordnungen, die in den 'Nearch'-Abschnitt (107—111) eingefügt ist (108), zieht demgegenüber nur frühhellenistische Gewährsleute heran: Außer Nearch erscheinen noch Onesikritos und Eratosthenes. Hauptthema ist die Bestimmung des 'Roten Meeres', das hier als nördlicher Indischer Ozean aufgefaßt ist. Es besitzt zwei Meerbusen, den *sinus Persicus* und den *sinus Arabicus* (also unser Rotes Meer)[46], welch' letztgenannter „in den Azanischen Ozean mündet" — der seinerseits demnach ein Teil des als Indischer Ozean verstandenen Roten Meeres sein müßte. Die Verwendung des Namens 'Rotes Meer' in der uns heute geläufigen Bedeutung findet sich bei Agatharchides, während der umfassendere Wortgebrauch für die frühere Zeit ausnahmslos bezeugt ist und in der späteren Zeit überwiegt[47]. Aus diesem Detail lassen sich darum im Hinblick auf die Quellen bei Plinius 6, 108 keine chronologischen Schlüsse ziehen. Hinweise auf die Verwendung nacheratosthenischen Materials gibt es in diesem Abschnitt nicht[48]. Der Name *Azanius oceanus* erscheint hier also in frühhellenistischer Umgebung.

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[44] H. VON WISSMANN, Himyar, Ancient History, Muséon 77, 1964, 430f.; DERS., Die Geschichte des Sabäerreichs und der Feldzug des Aelius Gallus, ANRW II 9. 1, hrsg. v. H. TEMPORINI, Berlin—New York 1976, 311f. (4f.), 395ff. (88ff.), 421 (114), 441 (134). WOELK a. a. O. 265f. gibt einen Überblick über das Vorrücken der Grenze der bekannten Welt in dieser Gegend bis zur Zeit des Agatharchides. Vgl. ferner F. PFISTER, Das Alexander-Archiv und die hellenistisch-römische Wissenschaft, Historia 10, 1961, 60ff.

[45] Vgl. H. VON WISSMANN, De mari Erythraeo, Stuttg. Geogr. Stud. 69, 1957, 308; 311.; vgl. DERS., ANRW II 9. 1, S. 543f. (236f.), Stellenregister.

[46] Bei Ps. Aristoteles, de mund. 393 b 3 (Zeit des Tiberius) heißen die beiden Ausbuchtungen Ἰνδικὸς κόλπος und Περσικὸς κόλπος. Sie gelten als Teile der Ἐρυθρὰ θάλασσα, die ihrerseits Teil des Ozeans ist. Es ist hier daran zu erinnern, daß der Ausdruck Ἰνδικὴ θάλασσα zur Bezeichnung der Gewässer vor der ostafrikanischen und südarabischen Küste erstmals im frühen 1. Jh. v. Chr. in der Verwaltungssprache der Ptolemäer bezeugt

Der zweite Beleg bei Plinius gehört in die Beschreibung Arabiens, die zunächst die Küstengegenden im Uhrzeigersinn von der Euphratmündung bis zu den Aelaniten, den südöstlichen Anrainern der Nabatäer, behandelt (147—156)[49], dann auf die Araber im Innern von den Nabatäern bis zur Südküste in nord-südlicher Reihenfolge eingeht (157—159) und schließlich nach kurzer Erwähnung der Expedition des Aelius Gallus und der Mitteilung, daß das Unternehmen des Gaius Caesar für die Geographie unergiebig blieb, einiges Generelle über die Sitten der Araber mitteilt (160—163). Diesem Abschnitt ist eine Beschreibung von Charax (138—141) vorangestellt, wo sich Verweise auf Dionysios von Charax, auf Juba und Aelius Gallus finden, sowie ein Abschnitt über den Nordwesten zwischen Petra, Palmyra und Charax, der in der Beschreibung Arabiens (147—156) und Berechnung seiner Größe (156 nach Juba und einer ungenannten, wohl älteren Quelle) unberücksichtigt bleibt.

Im Hauptteil (147—156) findet sich ein Kapitel (153) über zwei berühmte Inseln vor der arabischen Küste, Ogyris, mit dem Grab des sagenhaften Eponymos des Roten Meeres, und Dioscoridu *in Azanio mari*, 280 Meilen vom Kap Syagros entfernt.

Die Insel mit dem Grab des Königs Erythras gehört zum Informationsbestand der Nearch-Überlieferung. Strabon erwähnt sie (16, 3, 5) unter Berufung auf Nearch (FgrHist 133 F 27) und Orthagoras (FgrHist 712 F 3)[50]. Arrian, dessen Indika in diesem Teil einfach Nearch reproduzieren (37), spricht von einer Inselgruppe, zu der die Inseln Organa und Orakta gehören, deren zweite jenes Grab trage. Auch der Indienbericht des Plinius, der sich

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ist (s. o. S. 548), *Persicus* und *Arabicus sinus* als Teile des *mare Rubrum* auch bei Mela (3, 72), also gleichfalls in der frühen Kaiserzeit.

[47] Vgl. WOELK a. a. O. 90. Ptolemaios gebraucht den Namen im wesentlichen wie wir (6, 7, 8 und 45).

[48] Eine große Anzahl der von Plinius in diesem Zusammenhang mitgeteilten Toponyme findet sich auch in Arrians Auszug des Nearch-Berichtes, und unter denen, die durch Arrian nicht eindeutig für Nearch bezeugt sind, befindet sich keiner, der aus irgendeinem Grunde auf die späthellenistische Zeit verwiese.

[49] Die Araber im Dreieck zwischen Petra, Palmyra und der Euphratmündung werden von Plinius im vorangehenden Abschnitt besprochen. Zu der daran erkennbaren Einteilung Arabiens vgl. A. GROHMANN, Arabien, Handbuch der Altertumswissenschaft III. Abt. 1, München, 1963, 3ff.

[50] KRAMERS Konjektur Ὤγυριν anstelle des überlieferten Τυρίνην oder Τυρρήνην wird man akzeptieren.

in dieser Partie gleichfalls an Nearch anlehnt (6, 99), nennt die Insel Oracta[51].

Die von Plinius 6, 153 aufgeführte Insel Ogyris im Persischen Golf ist ohne Zweifel mit der Insel Oracta aus 6, 99 identisch, ohne daß Plinius die Identität auffiele. Für unseren Zusammenhang ist wichtig, daß die Zusammenstellung zweier berühmter Inseln vor der arabischen Küste in 6, 153 — Ogyris mit dem Erythras-Grab und Dioscoridu *in Azanio mari* — nicht aus frühhellenistischer Quelle stammen kann, denn von Dioskurides—Soqotrā wußte man nach allem, was darüber an Gewißheit zu gewinnen ist, vor Agatharchides nichts. Die terminologische Verschiebung Oracta/Ogyris gibt einen Hinweis darauf, daß, ähnlich wie in vielen anderen Fällen bei Plinius, über dasselbe geographische Detail auf Grund zweier zeitlich auseinanderliegender Quellen berichtet wurde. Daß Orakta der frühhellenistische, bei Nearch auftauchende Name gewesen ist, ergibt sich aus Arrian (Ind. 37). Die Strabonstelle (16, 3, 5) zeigt mit ihrer Textverderbnis Ὤγυριν in Τυρινήν, daß hier schon früh- und späthellenistisches Material miteinander verknüpft wurde, denn die Nachricht selbst wird auf Nearch zurückgeführt. Daß Plin. 6, 99 jedenfalls frühhellenistische, Plin. 6, 153 jedenfalls späthellenistische Informationen wiedergibt, dafür spricht alle Wahrscheinlichkeit, und der Ausdruck *mare Azanium*, der nach Plin. 6, 108 weder der einen noch der anderen Periode mit Sicherheit zugewiesen werden kann, taucht hier in späthellenistischem Material auf.

Das Nebeneinander von Informationen verschiedener zeitlicher Herkunft bei Plinius befremdet durchaus nicht, und zwar um so weniger, als auch schon die von Plinius genannten Autoren des 1. Jh. v. Chr. beides nebeneinander gehabt haben können. Viel ärgerlicher ist es, daß Plinius' Bericht nicht nur ein Nebeneinander, sondern nur zu oft auch ein Durcheinander alter und neuer Informationen bietet. Wir sehen jetzt davon ab, daß Plinius die räumliche Reihenfolge der Aufzählungen durchaus nicht immer konsequent einhielt. Unbequemer sind Erscheinungen wie die folgenden.

Die Aufzählung der Küstenaraber endet bei den Aelanitae, die nach Plinius auch Laeanitae genannt werden (153). Daß dieses dem epichorischen Namen Liḥyān entspricht, weiß man seit langem, aber derselbe früharabische Stammesname ist irgendwann auch in der Form Lichieni in die griechisch-römische Tradition übernommen worden, und die Lichieni erscheinen bei Plinius als eigenes Volk in unmittelbarer Nachbarschaft der Laeanitae[52]. Der Hafen Okelis am Südausgang des Roten Meeres, der in der Kaiserzeit eine besondere Rolle im Indienhandel spielte, wird in der Form Ὄκηλις mehrfach im Periplus und bei Ptolemaios[53] genannt. Nach Strabons ausdrücklichem Zeugnis (16, 4, 5) ist er in der Form Ἄκιλα durch Artemidor, also um

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[51] Die Insel Organa im Persischen Golf kennt auch Ptolemaios (6, 7, 46), die Kunde vom Grab des Königs Erythras oder Erythros findet sich auch sonst in der Alexandergeschichte (Quint. Curt. 10, 1, 10).

[52] W. Caskel, Lihyan und Lihyanisch, Köln 1953, und W. Grohmann, Arabien, Handbuch der Altertumswissenschaft III. Abt. 1, München 1963, 23.

[53] Peripl. 25 u. ö., Ptolem. 1, 7, 4 u. ö.

100 v. Chr., erstmals in die geographische Literatur eingeführt worden. Plinius kennt den Ort als Acila (6, 151)[54] und als Ocilia (12, 88), wobei er sich über die Identität schwerlich im klaren ist, denn Acila erwähnt er als Emporium des *Scenitae Sabaei*, Ocilia als Hafen der Geb(b)anitae, und besondere Bedeutung für den Indienhandel wird nur Acila zugeschrieben[55]. Zu allem Überfluß aber kennt Plinius auch den Namen Ocelis (6, 104), und dieses ist die zeitgenössische Bezeichnung des Platzes, die Plinius im Zusammenhang seiner genauen Beschreibung der in seiner eigenen Zeit (6, 101) üblichen Monsunroute, also im Abschnitt über Indien, gebraucht und die mit dem Wortgebrauch des Periplus und des Ptolemaios übereinstimmt. Acila und Ocilia waren im späteren 1. Jh. n. Chr. also schon obsolet gewordene Namensformen.

In 6, 153 erscheinen die Gebanitae und die Catapani als zwei benachbarte Völker: Hinter beiden Bezeichnungen steht vermutlich der arabische Name Qatabān[55a], der zweimal in jeweils verschiedener Situation übernommen und transkribiert wurde.

Schwerlich wird man — in Ermangelung der Paralleltexte — derartige Divergenzen in der geographischen Nomenklatur im Pliniustext überall aufspüren können. Wo man sie registriert, wie in den eben aufgeführten Fällen, ist die quellenkritisch-chronologische Auswertung mit Schwierigkeiten verbunden, stehen sie doch in keiner deutlichen Beziehung zur Disposition und zur literarischen Darbietung des Stoffes, denn Übergänge von einem Themen- oder Quellenbereich zum anderen markiert Plinius allenfalls für verhältnismäßig große Abschnitte. So läßt sich aus den beiden bisher behandelten Stellen, an denen die Bezeichnung Azanien bei Plinius vorkommt, keine verbindliche Antwort auf die Frage ableiten, ob es dieses Wort seit früh- oder seit späthellenistischer Zeit in der Terminologie der griechischen Geographie gab. Wahrscheinlicher ist die zweite Epoche.

Das bestätigt die dritte Erwähnung (6, 172), die im Zusammenhang einer von Norden nach Süden fortschreitenden Beschreibung der Ostküste Afrikas steht. Dort gibt es ein *Azanium mare* nördlich von Adulis, also als Bucht innerhalb des Roten Meeres. Diese Angabe wird noch verwirrender dadurch, daß es in der Nachbarschaft dieses Azanischen Meeres ein *promunturium quod aliqui scripsere Hippalum* geben soll. Daß dieses Kap nach dem 'Entdecker' des Monsuns (Plin. 6, 100f.; Peripl. 57) seinen Namen trägt, wird man kaum bezweifeln, obgleich diese Benennung gerade deshalb viel eher für einen Punkt der Küste des offenen Meeres, also außerhalb des Bāb el Mandeb am Avalitischen Golf zu erwarten wäre. Das Ἵππαλον πέλαγος des Ptolemaios ist denn auch das offene Meer östlich Afrikas, das in das Ἰνδικὸν πέλαγος übergeht (4, 7, 41)[56]. Plinius' Beschreibung der Ostküste Afrikas endet außerhalb des Bāb el Mandeb am *portus Mosylites* (174/175), wo nach Juba der Atlantik beginnt, so daß man von dort aus Afrika umschiffen kann[57]. Ptolemaios (4, 7, 10) und auch schon der Periplus (10) belehren uns darüber, daß dieser Hafen und das dazugehörige *promunturium* am Avalitischen Golf (Golf von Aden, vgl. Plin. 6, 174) etwa auf halbem Wege zwischen dem Bāb el Mandeb und dem Kap Guardafui zu suchen ist, während man es nach Plinius bzw. Juba mit dem Kap Guardafui identifizieren muß[58]. Strabon nennt in dem zweiten der einschlägigen Abschnitte, der aus Artemidor genommen ist und die Angaben des ersten, eratosthenischen für den Süden ergänzt (s. o. S. 558), den *portus Mosylites* nicht, wohl aber die Ostspitze Afrikas als Νότου κέρας, welcher Name bei Ptolemaios einen Punkt im Süden des Kaps Guardafui bezeichnet (4, 7, 1).

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[54] Plin. 6, 151/152 kann demnach nicht auf eine Quelle des 4. Jh. v. C. oder noch älterer Zeit zurückgehen, wie H. von Wissmann, Die Südgrenze der Terra Cognita von Juba und Plinius bis Ptolemäus, Schlern-Schriften 190 = Festschr. Kinzl, Innsbruck 1958, 318, glaubte. Vgl. dazu R. R. Dicks, The Geographical Fragments of Hipparchus, London 1960, 172.

[55] Es ist klar, daß diese beiden Informationen aus einer jeweils verschiedenen historischen Situation am Roten Meer kommen, die H. von Wissmann, Ḥimyar, Ancient History, Muséon 77, 1964, 429 und Ders., Zur Geschichte und Landeskunde von Alt-Südarabien, Sitz.Ber. Akad. Wien 246, 1964, 291, zu erläutern versucht. Vgl. auch Ders., ANRW II 9. 1 (1976), 420 (113), 433 (126), 464f. (157f.), Abb. 1.

[55a] Vgl. dazu Plin. 12, 88 und H. von Wissmann, Sitz.Ber. Akad. Wien 246, 1964, 169; Ders., ANRW II 9. 1 (1976), 413ff. (106ff.), 433 (126), 469 (162).

Man darf aus diesen, in ihrer Gesamtheit etwas verwirrenden Angaben wohl den folgenden Schluß ziehen. Strabons jüngster Quellenautor für den zur Rede stehenden geographischen Bereich ist Artemidor, Plinius nennt als jüngsten Gewährsmann für 6, 163ff. den Mauretanier Juba. Diese beiden wußten über die ostafrikanische Küste außerhalb des Bāb el Mandeb etliches zu berichten, weil es in späthellenistischer Zeit in jener Gegend einige Forschungstätigkeit gegeben hatte. Aber ihr Wissen war, gemessen an dem, was sie über das eigentliche Rote Meer zu sagen hatten, unpräzise und lückenhaft, und das äußert sich in terminologischen Unklarheiten. Erst mit der Intensivierung der gräko-ägyptischen Schiffahrt im Roten Meer und im Indischen Ozean, die in augusteischer Zeit einsetzte, festigte sich das Wissen über Ostafrikas Küste. Gleichzeitig verschob sich die Südgrenze der bekannten Welt. Am Ende des 1. Jh. n. Chr., beim Autor des Periplus, reicht sie bis Rhapta[59], und am Anfang des 2. Jh. n. Chr. ist das Kap Prason erreicht, das für Ptolemaios und alle Späteren den südlichsten Punkt der bekannten Welt markiert[60]. Ptolemaios nennt mehrere Kapitäne, die zuerst bis in die Gewässer weit südlich vom Kap Guardafui vorstießen (Theophilos, Diogenes, Dioskoros). Sie gehören wohl alle ins 1., vielleicht z. T. in die frühsten Jahre des 2. Jh. n. Chr. In allen diesen Nachrichten aus der Kaiserzeit bezieht sich der Name Azanien[61] eindeutig auf die ostafrikanische Küste südlich vom Kap Guardafui, und allenfalls mag der so bezeichnete Landstreifen mit seiner nördlichen Schmalseite westlich vom Kap Guardafui an die Küste des Golfs von Aden gestoßen sein. Demgegenüber zeigt Plinius eine Unsicherheit in der Verwendung des Namens Azanien, wie sie in der späthellenistischen Zeit am ehesten verständlich ist, der seine Gewährsleute in der Tat angehören. Das Resümee der Entdeckungen des späten Hellenismus zogen Geographen wie Agatharchides, Poseidonios, Artemidor, Juba, Isidor von Charax. Wir greifen sie in Perikopen wie der zweiten über Äthiopiens Küste im Werk Strabons und in dem besprochenen Abschnitt des Plinius. Beide Male wird das eratosthenische, aus frühhellenistischem Material geschaffene Bild durch einen zusätzlichen Abschnitt späthellenistischer Herkunft ergänzt. Beide Male erreicht der ergänzende Abschnitt nicht die Präzision des ersten, und im Fall des Plinius darf man sagen, daß auch die eingefügten zeitgenössischen Informationen (z. B. 6, 72; 6, 100f.) genauer sind als die späthellenistischen[62]. Was nun Azanien

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[56] An anderer Stelle (6, 7, 8) rechnet Ptolemaios den Golf von Aden zur Ἐρυθρὰ θάλασσα, aber μετὰ τὰ στενά. Das Rote Meer ist also a fortiori jedenfalls die See, die wir noch heute so bezeichnen.

[57] Vgl. F. Jacoby im Kommentar zu FgrHist 275 F 35.

[58] H. v. Wissmann (Festschrift Kinzl, Innsbruck 1958, 311ff., sowie R.E. Suppl. 11 [1968] s. v. Zamareni, 1322ff.) hat mit großer Gelehrsamkeit zu zeigen versucht, Jubas Beschreibung habe bereits die ostafrikanische Küste bis Moçambique und die Insel Madagaskar berücksichtigt. Dieser Beweis beruht auf der Interpretation einiger Stammesnamen, die bei Plin. 6, 176 auftauchen: Die Zangenae gehören zu Zandj = Azanien, die Xoxinae, deren Namen man in Eoxinae emendieren könne, entsprächen den Auxanitai des Indienfahrers Kosmas und der Ausanitischen Küste mit der Insel Menouthias im Periplus des Roten Meeres u. a. m. Zweifellos beruht Plin. 6, 157/176 auf Angaben Jubas. Sieht man aber von jenen Namensgleichungen ab, die wohl niemand für gesichert halten wird, deutet in dem Abschnitt alles darauf hin, daß der Verfasser das Rote Meer (in unserem Sinn) und den Golf von Aden im Auge hat, keineswegs aber Meer und Küste südlich von Kap Guardafui. Wenn Juba meinte, und das teilt Plinius ausdrücklich mit, *a Mosylite promunturio* beginne der Atlantische Ozean, so endete für ihn dort eben die erforschte oder bekannte Küste. Daß dieser Punkt jedoch jedenfalls nicht südlich vom Kap Guardafui zu suchen ist, darüber belehren uns der Periplus (10) und Ptolemaios (4, 7, 10). Zangenae oder arab. Zandj können zu Jubas Zeiten sehr wohl auch Eingeborenenstämme genannt worden sein, die man an der Südküste des Golfs von Aden kennengelernt hatte.

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[59] Zur Lokalisierung vgl. H. C. Baxter, Pangani: the Trade Center of Ancient History, Tanganyika Notes and Records, 17 (1944), 15—25.; J. Innes Miller, The Spice Trade of the Roman Empire, Oxford 1969, 167.

[60] z. B. Marcian. Peripl. mar. ext. 1, 13. — Der Periplus des Roten Meeres (18) sagt noch ausdrücklich, südlich von Rhapta beginne der ὠκεανὸς ἀνερεύνητος, womit sein Datum im Verhältnis zu Ptolemaios bereits bestimmt ist. Vgl. dazu Miller, Spice Trade 173. Daß bis an die Küste des heutigen Tansania hinunter auch vereinzelte ptolemäische Münzen gefunden wurden, besagt natürlich nichts über die Reichweite der ägyptischen Seefahrt in dieser Zeit.

[61] Daß das Wort Azanien mit Zandj, der arabischen Bezeichnung für Ostafrika und seine Bewohner, zusammenhängt, ist eine naheliegende Vermutung. Sie hilft aber nicht in der Frage weiter, seit wann Azanien als Terminus in der griechisch-lateinischen Geographie gebraucht wurde, selbst wenn man die Priorität des arabischen Wortes voraussetzt. Vgl. dazu A. Grohmann, Enzyklopädie des Islam IV, Leiden–Leipzig 1934, 1315, s. v. Zanzibar; L. Massignon, ebd., 1313, s. v. Zandj; A. Tomaschek, R.E. 2,2 (1896) s. v. Azania Nr. 2, 2639f.; J. Tkač, ebd. 1 A, 2 (1920), s. v. Saba, 1468; A. Grohmann, Arabien 25. Auch hinter der Bezeichnung Ζιγγιον für das Meer vor der Ostküste Afrikas (Cosm. Indic. 2, 30 Wolska) wird dieses arabische Wort zu suchen sein.

[62] Ob Plinius' Erwähnung der Stadt Adulis (6, 172/174), die Strabon nicht nennt, eine zeitgenössische (vgl. Peripl. 3 u. ö.) oder eine späthellenistische Information darstellt, kann man allenfalls mit Erwägungen zur axumitisch-südarabischen Geschichte, schwerlich aus der Plinius-Interpretation selbst entscheiden. Die beigefügte, aus der Volksetymologie des Namens (ἄ-δουλος) abgeleitete Gründungslegende läßt eher an literarische Tradition und damit an späthellenistischen Ursprung der Notiz denken. Vgl. W. Krebs, Adulis — ein antiker Hafen am Roten Meer, Altert. 15, 1969, 162ff.

(*Azanium mare* u. dgl.) angeht, so deutet die Unsicherheit in der Lokalisierung am ehesten darauf, daß der Name für Plinius zuerst in einer spät-hellenistischen Quelle zu finden war und außerdem zum geographischen Vokabular seiner Zeit gehörte. Der Name kam auf, als seit den letzten Jahrzehnten des 2. Jh. v. Chr. die Gewässer und Küstenstriche außerhalb des Bāb el Mandeb zunehmend erforscht wurden, ohne daß daraus zunächst eindeutig fixierte Vorstellungen erwuchsen. Diese Festlegung erfolgte erst, als die Schiffahrt vor der Küste Ostafrikas und über den Indischen Ozean so alltäglich wurde, wie es der Periplus des Roten Meeres bezeugt.

Es zeigt sich also, daß die geographische Terminologie, die in der bei Ptolemaios zitierten Schrift des Diodor von Samos verwendet wurde, am ehesten in die späthellenistische Periode paßt: Von der Indike zur Limyrike und von Arabien nach Azanien. Damit wird Diodor von Samos zum Zeugen für eine Erschließung von Seerouten in nord-südlicher Richtung entlang der Küsten Afrikas und Indiens, die seit dem 2. Jh. v. Chr. stattgefunden hat und im Falle Indiens sehr bald dazu führte, daß man die Südausdehnung des Subkontinents erkannte und sich der Monsunhandel vor allem zwischen Ägypten und Südindien entwickelte.

Wann die Fahrt, auf die sich Diodor von Samos bezieht, das erste Mal stattgefunden hat, läßt sich mit Genauigkeit nicht bestimmen[63]. Den Terminus post quem bildet die zweite Invasion Indiens durch die Griechen, den terminus ante quem die Entwicklung des lebhaften Direktverkehrs zwischen Ägypten und der Malabarküste. Ob aber Diodor älter ist als der Kyzikener Eudoxos oder nicht, wird so lange im Dunkeln bleiben, als wir nicht sagen können, ob Eudoxos' zwei Fahrten in Barygaza, Kalliene oder

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[63] Unsere Kenntnis der Geographen des 2. und 1. Jh. v. Chr. ist außerordentlich gering, und eigentlich haben wir nur von Artemidor, Poseidonios Juba und Agatharchides einigermaßen klare Vorstellungen. In die Nähe des Samiers Diodoros dürfen wir vielleicht den Steuermann Sosandros rücken, dessen Werk τὰ κατὰ τὴν Ἰνδικήν (FgrHist 714) jedenfalls älter als der Periplus des Menippos (august. Zeit) ist, wie sich aus Markians Epitome ergibt. Basilis' Ἰνδικά (FgrHist 718) mögen etwa so alt sein wie das Werk des Agatharchides, wobei nicht auszumachen ist, ob sie neues Material enthielten oder eine Kompilation waren wie die Ἰνδικά des Alexander Polyhistor aus sullanischer Zeit (FgrHist 273). Umstritten ist das Datum des Orthagoras, der gelegentlich zusammen mit Nearch aufgeführt wird und den GISINGER (R.E. 18,2 [1942] s. v. Orthagoras, 1424ff.) deshalb für einen Kapitän in der Flotte Alexanders hält. JACOBY (FgrHist 713) setzt ihn demgegenüber ohne Begründung ins 1. Jh. v. Chr., in die zeitliche Nachbarschaft des Isidor von Charax. Vielleicht liegt der Grund darin, daß im Fragment 2, einem Zitat bei Philostrat (vit. Apoll. 3, 53), auf Orthagoras Angaben über den Sternhimmel der Äquatorialzone zurückgeführt werden, wie sie auch bei Damis, dem angeblichen Gewährsmann Philostrats und Zeitgenossen des Apollonios von Tyana, zu finden seien. Nimmt man diese Angaben im Fall des Orthagoras ernst und nicht wie vergleichbare, von Eratosthenes zurückgewiesene Mitteilungen frühhellenistischer Autoren als Resultate geographischer Spekulation, weisen sie auf Fahrten in den Gewässern südlich Indiens. Da Orthagoras jedoch schon von Strabon zitiert wird (16, 3, 5), könnte er nicht in die Kaiserzeit, sondern in die späthellenistische Periode gehören, sofern man jenen astronomischen Daten Glauben schenkt. (Zu den astronomischen Themen — Schattenfall nach Süden und Sichtbarkeit des Großen und des Kleinen Bären — vgl. J. BEAUJEU zu Plin. 2, 188 in der Ausgabe Paris 1950; zum angeblichen Damis des Philostrat E. L. BOWIE, Apollonius of Tyana: Tradition and Reality, ANRW II 16. 2, hrsg. v. W. HAASE, Berlin—New York 1978, 1663ff.)

Muziris endeten, ob also die vollständige Erschließung der Westküste Indiens in ihrem Nord-Süd-Verlauf der Fahrt des Eudoxos bereits voranging. Plinius' Mitteilung (6, 72), die drei Routen des Monsunverkehrs seien nach der Entdeckung des Hippalos im Verlauf einer längeren Zeit nacheinander in nord-südlicher Reihenfolge in Gebrauch gekommen, läßt sich nicht verifizieren, wenn auch die Fächerung selbst durch die Angaben des Periplus bestätigt wird. Der Samier Diodor kann also ins 2. oder 1. Jh. v. Chr. gehören, schwerlich aber lange vor der Mitte des 2. und nach der Mitte des 1. Jh. v. Chr. gelebt haben. Die auf den im Bericht des Ptolemaios vorangehenden § 4 mit der Erwähnung Hipparchs gestützte Vermutung BERGERS[64], die Notiz über die Fahrten des Diodor hätte schon bei Hipparch gestanden, hat DICKS[65] mit Recht zurückgewiesen, denn die Position des in diesem Zusammenhang erwähnten Okelis ist nach Strabons ausdrücklichem Zeugnis erst durch Artemidor in die Diskussion eingeführt worden (Strab. 16, 4, 5). Die Fahrten des Eudoxos, soviel ist sicher, sind auf Grund der Zeugnisse bei Apollodor von Artemita, Aelian und Ptolemaios im Zusammenhang mit der Erschließung der Westküste Indiens zu sehen, und diese wiederum wurde durch die zweite Invasion Indiens ermöglicht, weil damals auch die ἄλλη παραλία, also ein Küstenstrich östlich der Indusmündung, zeitweilig unter griechische Kontrolle geriet. Die Schiffahrt entlang der Westküste korrigierte — mindestens für die nautische Praxis — das von Eratosthenes entworfene und auch von Hipparch prinzipiell nicht bestrittene Bild, nach dem die südliche Begrenzung Indiens von der Indusmündung aus über eine beträchtliche Distanz in östlicher Richtung verläuft. Die Entdeckung, daß sich die Westküste Indiens von Norden nach Süden erstreckt, die griechischen Schiffern im 2. Jh. v. Chr. gelang, mußte zu dem Versuch ermutigen, in direkter Fahrt, also unter Umgehung des südarabischen Zwischenhandels, den Indischen Ozean zu überqueren. Daß die Ausnutzung der Passage für einen umfänglichen Güteraustausch mit dem Osten erst in der Kaiserzeit beginnen konnte, ändert nichts daran, daß die entdeckungsgeschichtlichen Voraussetzungen schon fast ein Jahrhundert vor Aktium geschaffen wurden[66].

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[64] Geschichte der wissenschaftl. Erdkunde der Griechen, Leipzig 1903, 474 u. 594f.

[65] D. R. DICKS, The Geographical Fragments of Hipparchus, London 1960, 172.

[66] Es ist nicht undenkbar, daß die von Jambulos gestaltete Romanhandlung (Diod. 2, 55ff.) mit der Entdeckung der Süderstreckung des indischen Subkontinents zusammenhängt. Dieses neue geographische Wissen vermochte recht wohl Spekulationen anzuregen, wie man in den fernen Süden des Indischen Ozeans vorstoßen und von dort, nicht vom Westen aus, in das bekannte Indien gelangen könne. Allerdings empfiehlt es sich nicht, einen Roman wie diesen allzu streng hinsichtlich seiner geographischen Angaben zu interpretieren. Jambulos, den man mit großer Wahrscheinlichkeit in die späthellenistische Zeit datieren kann, gehört in eine literarische Tradition phantastisch-utopischer Reiseerzählungen, die u. a. schon Euhemeros im frühen 3. Jh. v. Chr. repräsentiert. Diese Tradition verfügt über den Topos der Seereise ins ferne Südmeer, der durch jeweils moderne geographische Kenntnisse zwar modifiziert werden kann, aber deshalb nicht in eine Form der Mitteilung geographischen Wissens überführt wird. Gute Bemerkungen zu Jambulos bei J. O. THOMSON, History of Ancient Geography, Cambridge 1948, 176f.; dort auch weitere Literatur.

IV. Ceylon und der Golf von Bengalen

Schon bei Nearch, Onesikritos und Megasthenes — bei Autoren also, die mit Sicherheit niemals Südindien und seine Gewässer in Augenschein nehmen konnten — finden sich Angaben über Entfernungen und Verhältnisse im Süden. Onesikritos behauptet, vom südlichsten Punkt Indiens im Lande der Musikaner am Unterlauf des Indus (FgrHist 134 F 22) brauche man 20 Tagereisen bis nach Ceylon und müsse dabei andere Inseln passieren (FgrHist 134 F 12b; Strab. 15,1,15). Nearch schrieb, in den indischen Gewässern verschwinde der Große und der Kleine Bär unter die Horizontlinie (FgrHist 133 F 16b; Strab. 2,1,20; ähnl. Philost. vit. Apoll. 3, 53). Dasselbe erzählte Megasthenes (b. Diod. 2,35,2 = FgrHist 715 F 4) und fügte hinzu, daß im südlichsten Indien der Schatten mittags nach Süden falle. Schon Eratosthenes hatte diese Angaben zurückgewiesen und dabei sowohl sich auf Daimachos (Strab. 2, 1, 20) berufen als auch die Beobachtung verwertet, an der Zimtküste, 3000 Stadien südlicher als Meroë, sei der Kleine Bär stets sichtbar (Strab. 2, 5, 35; vgl. Hipparch. fr. 15—17 Dicks). Meroë aber lag für Eratosthenes auf derselben Breite wie der südlichste Teil Indiens (s. o. S. 550f.)[67]. Nachrichten dieser Art werden z. T. auf Spekulation, z. T. auf Erkundigungen bei Einheimischen zurückgehen. So mögen Seeleute Alexanders in einem der Häfen an der Indusmündung gehört haben, man brauche bis Ceylon 20 Tage, was dann Onesikritos in seinen Bericht aufnahm. Ganz entsprechend redet Megasthenes (b. Plin. 6, 82) von 20 Tagen Seereise zwischen dem Lande der Prasier und Ceylon, womit nur die Seeroute von der Gangesmündung nach Ceylon gemeint sein kann, denn das Gebiet der Prasier war das in der Gangesebene gelegene Kernland des Maurya-Reiches. Beide Angaben können, für sich genommen, sehr wohl richtig sein[68], ohne daß sie bei denen, die sie in die Literatur einführten, auch richtige Vorstellungen von der Gestalt Indiens und der Lage Ceylons hervorriefen.

Eratosthenes' aus derartigen Informationen gewonnene Bestimmung der Geographie Ceylons setzte die Insel zum äußersten Süden Indiens in Beziehung, zum Land der Koliakoi, Kolchoi oder Koniakoi, der Eponymen des Kap Kory (Kormorin), von dem wohl Megasthenes zuerst erzählt hatte. Nach Eratosthenes liegt Ceylon 7 Tagereisen südlich dieses Gebietes (Strab. 15, 1, 14). Plinius (6, 81/82) führt nun beide Distanzangaben, die des Megasthenes und die des Eratosthenes, nebeneinander auf, versteht aber die 7 Tage des Eratosthenes, obwohl sie doch vom Südrand Indiens aus berechnet sind, als Korrektur der 20 Tage des Megasthenes, die von der Gangesmündung aus angesetzt sind. Die Verkürzung der Fahrzeit begründet Plinius mit dem Aufkommen eines neuen Bootstyps in den angeblich flachen Gewässern zwischen Ceylon und Indien, und er bezieht sich dabei ausdrücklich auf Erfahrungen mit Schiffsarten seiner eigenen Umwelt. Daß aber die 7 Tage aus Eratosthenes stammen, lehren die Strabon-Parallelen und der Umstand, daß Plinius mit den zeitgenössischen Informationen über Ceylon ausdrücklich erst im übernächsten Kapitel beginnt (84: *hactenus a priscis memorata; nobis diligentior notitia*). In diesem Teil redet Plinius von einer viertägigen Überfahrt vom Kap Coliacum (Kory) nach Ceylon (6, 86; s. u. S. 569). Überlegungen zur Qualität der indischen Schiffe erscheinen schon im Zusammenhang der Angabe des Onesikritos, die Reise von der Indusmündung nach Ceylon dauere 20 Tage (FgrHist 134 F 12), und Plinius beruft sich im Referat der älteren Kunde über die Insel neben Megasthenes und Eratosthenes für ein anderes Detail — die besondere Größe der Elefanten Ceylons — gleichfalls auf Onesikritos (F 13). Plinius' Ceylon-Kapitel 81—83 bezeugen damit ganz vorzüglich den Stand der Kenntnisse in frühhellenistischer Zeit: Man weiß, daß Ceylon eine Insel ist und nicht der Nordteil eines Kontinents der südlichen Halbkugel[69], verfügt über einige Informationen unterschiedlicher Zuverlässigkeit, die sämtlich aus zweiter oder dritter Hand stammen, weil kein Grieche in den Süden gekommen ist, und glaubt, daß die Insel in ost-westlicher Richtung ihre größte Ausdehnung habe[70] und sich in einigem Abstand parallel zur gleichfalls etwa ost-westlich verlaufenden Südküste Indiens erstrecke. Die Vorstellung von der größten Länge der Insel schwankt zwischen 1000 und 1400 km, womit man ihre Größe weit überschätzt. Insgesamt ist das Wissen spärlich. Arrian, dessen Indienbuch sich auf Nearch und Megasthenes stützt, erwähnt Ceylon gar nicht, ebenso wenig Diodor in seinem langen Megasthenes-Excerpt. Das deutet darauf hin, daß bei Megasthenes einzelne Nachrichten, aber kein geschlossener Bericht über die Insel zu finden war. Spärlich sind auch die Ceylon-Abschnitte bei Strabon (2, 5, 14 und 15, 1, 14), eben genau wie das hellenistische Material bei Plinius (6, 81—83).

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[67] Vgl. auch Plin. 2, 183f. Zur Parallelisierung Aethiopien/Ägypten und Indien vgl. A. Dihle, Der fruchtbare Osten, Rh. Mus. 105, 1962, 97ff.

[68] Auf der Route von der Gangesmündung kamen 150 Jahre vor Megasthenes die Singhalesen, 30 Jahre nach Megasthenes die buddhistischen Missionare auf die Insel. Sie wurde auch von dem chinesischen Mönch Fa-hsien i. J. 400 n. Chr. befahren, der für die Reise 14 Tage benötigte (The Travels of Fa-hsien, transl. by H. A. Giles, Cambridge 1923, 66).

Es besteht unter diesen Umständen schwerlich Anlaß, an Plinius' wichtigster Mitteilung zur Entdeckungsgeschichte Ceylons zu zweifeln (6, 84): *nobis diligentior notitia Claudi principatu contigit*[70a]. Der Verfasser der pseudoaristotelischen Schrift vom Kosmos (393 b 15), der in tiberianische Zeit zu setzen ist, und Pomponius Mela (3, 70), ein Zeitgenosse Caligulas, sprechen noch mit großer Unklarheit von der Insel. Auch dagegen, daß zur Zeit des Claudius eine Gesandtschaft aus Ceylon nach Rom gekommen sei, gibt es kaum einen stichhaltigen Einwand. Ob die bei Plinius (6, 85) mit dieser Mitteilung verknüpfte Geschichte vom Freigelassenen des

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[69] Immerhin ist selbst Mela, ein Autor aus der Zeit des Caligula, sich über diesen Punkt nicht ganz im klaren (3, 70): *Taprobane aut grandis admodum insula aut prima pars orbis alterius* [*ut*] *Hipparcho dicitur, et quia habitatur nec prope verum est* (vgl. Hipparch. fr. 5/6 DICKS).

[70] Dieselbe Meinung hegt übrigens auch der Chinese Fa-hsien im 4./5. Jh. n. Chr. (a. a. O. p. 67).

[70a] Die wichtigsten Quellenzitate zusammengestellt bei E. PEIRIS, Greek and Roman Contacts with Ceylon, Ceyl. Hist. Journ. 10, 1960/61, 8—30.

Annius Plocamus in allem Detail historische Realität besitzt und ob vor allem das Abenteuer dieses Mannes wirklich den Anlaß zu jener Gesandtschaft gegeben hat, ist eine ganz andere Frage. Die Dinge liegen hier ähnlich wie im Fall der Indienfahrten des Eudoxos. Diese sind als solche wohl bezeugt, datiert und in die spezifische Situation am Ende des 2. Jh. v. Chr. einzuordnen. Der Geschichte vom schiffbrüchigen Inder hingegen kommt in der historischen Kausalkette keine besondere Bedeutung zu, mag sie nun wahr sein oder nicht. Mündliche Überlieferung, wie sie sich in Hafenstädten und anderswo bildet, verknüpft jedoch wichtige historische Ereignisse gern mit derlei Episoden, die bei aller Außergewöhnlichkeit eben doch in den Erfahrungshorizont der Überlieferungsträger hineinpassen. Darum kann man sich vorstellen, daß Episoden wie die vom schiffbrüchigen Inder oder vom schiffbrüchigen Freigelassenen des Annius Plocamus im Bedarfsfall sowohl erfunden als auch von einem Zusammenhang in den anderen übertragen werden können. Wenn in solchen Geschichten Namen und Ortsangaben aus der Wirklichkeit der Erzählenden und ihrer Zuhörer genommen werden, sagt das nichts über die Historizität der Begebenheit selbst. Ein Steuerpächter Annius Plocamus hat offenbar tatsächlich seine Tätigkeit in den Häfen des Roten Meeres ausgeübt, und Sklaven oder Freigelassene hat er natürlich auch in seinem Betrieb beschäftigt. Das weiß man aus einem Graffito, das an der Straße von Koptos gefunden wurde[71]. Dieses auf das Jahr 6 n. Chr. datierte Graffito rückt jenen Annius Plocamus allerdings in die Zeit des Augustus, doch kann einer seiner Freigelassenen durchaus nach dem Tode seines Freilassers zur Zeit des Claudius im Indischen Ozean zur See gefahren sein. Wie dem auch sei — denn es ist wohl müßig, sich langen Spekulationen über die mögliche Historizität solcher Seemannsgeschichten hinzugeben —, man muß die Frage stellen, ob sich die engere Bindung Ceylons an die ägyptisch-indische Seefahrt, die Plinius für die Zeit des Claudius bezeugt, durch andere Angaben bestätigt und in einen wirtschafts- oder entdeckungsgeschichtlichen Kontext gerückt wird.

Hier darf man wohl vorab die von Warmington und anderen[72] vertretene Meinung zurückweisen, Plin. 6, 84 hänge mit der Fahrt des Hippalos zusammen und bezeuge die Entdeckung der Monsunpassage. Plinius selbst hat diese Auffassung nicht gehabt, wie aus 6, 100 hervorgeht, und oben S. 549 konnte gezeigt werden, daß bereits der Indienhandel augusteischer Zeit die Einbürgerung der Monsunschiffahrt voraussetzt. Merkwürdig bleibt nun freilich, daß trotz der starken Konzentration des Indienhandels auf den Süden des Subkontinents Ceylon zunächst als Partner keine Rolle spielte. Den Hunderten römischer Münzen augusteischer und tiberianischer Zeit, die in Südindien gefunden wurden, stellt Ceylon nichts zur Seite:

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[71] D. Meredith, Annius Plocamus. Two Inscriptions from the Berenice Road, Journ. Rom. Stud. 43, 1953, 38. Dazu Miller, Spice Trade 15f.

[72] The Commerce between the Roman Empire and India, Cambridge 1928, 45ff. M. P. Charlesworth, Trade-Routes and Commerce of the Roman Empire, Cambridge 1924, 60; W. Aly, Strabon von Amaseia, Bonn 1957, 171f.; Miller, Spice Trade, 194.

Dort beginnen die — insgesamt bis zum 4. Jh. n. Chr. sehr spärlichen — Münzfunde mit Stücken aus der Zeit Neros[73], dieses eine willkommene Bestätigung der Angabe des Plinius.

Die Verteilung der Münzfunde in Südindien macht deutlich, daß viele griechisch-römische Waren, die in augusteisch-tiberianischer Zeit nach Südindien gelangten, nur bis zu einem der großen Häfen der Malabarküste zur See, von da aus jedoch quer durch den Kontinent auf recht wohl nachweisbaren Handelsstraßen zu Land transportiert wurden. Dieser Handel vermied demnach die Umschiffung des Kap Kormorin, obwohl der Seeweg in den Golf von Bengalen schon im 1. Jh. v. Chr. nach Strabons ausdrücklichem Zeugnis bekannt — wenn auch selten befahren — war (15, 1, 4). In der zweiten Hälfte des 1. Jh. n. Chr. scheint diese Route dann beliebter geworden zu sein. Das zeigen Plinius' Entfernungsangaben (6, 72), die den ganzen Umfang Indiens berücksichtigen, und natürlich der Periplus des Roten Meeres[74].

Vor einigen Jahren hat Ph. Vogel die Indien-Kapitel des Ptolemaios analysiert[75] und dabei sowohl die Handelsstraßen von der Malabar- zur Koromandelküste wiedergefunden als auch auf den bemerkenswerten Umstand hingewiesen, daß Ptolemaios im Gegensatz zum Periplus über die Häfen der Ostküste Südindiens reichlichere Informationen mitteilt als über diejenigen der Westküste[76].

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[73] Vgl. die gute Übersicht über die Funde römischer Münzen im gesamten indischen Bereich bei Miller, Spice Trade, 236ff.

[74] Mein Versuch, die traditionelle Datierung des Periplus ins späte 1. Jh. n. Chr. zu stützen (Umstrittene Daten, Köln-Opladen 1965), ist von der Kritik weithin zustimmend aufgenommen worden (O. Murray, Class. Rev. 81, 1967, 79ff.; S. J. Oost, Class. Philol. 62, 1967, 139; E. Hammerschmidt, Aethiopien, Wiesbaden 1967, 38; G. C. Hansen, Gött. Gel. Anz. 220, 1968, 42ff.; D. Timpe, Anz. Alt. 21, 1968, 37ff.; J. Schwartz, Rev. d'hist. et de philos. relig. 48, 1968, 283f.; H. W. Pleket, Vig. Christ. 23, 1969, 142—145; G. W. Bowersock, Journ. Rom. Stud. 61, 1971, 224). Es bleibt die Aufgabe, die Chronologie der südarabischen Dynastien aus den Inschriften mit der erforderlichen Sicherheit festzulegen, um so eine sichere Brücke zum Periplus schlagen zu können. Vorerst scheinen die Datierungen in der südarabischen Geschichte mit so vielen Unsicherheitsfaktoren belastet zu sein, daß man trotz des bewundernswerten Scharfsinns, der hier aufgewendet wurde (vgl. etwa H. v. Wissmann, Sitz.Ber. Wien 246, 1964 u. Ders., Muséon 77, 1964, 429ff.), die zuerst von J. Pirenne versuchte Datierung des Periplus mit Hilfe südarabischen Materials, das ins 3. Jh. n. Chr. zu weisen scheint, mit Skepsis beurteilen muß. Auf das traditionelle Datum führen auch die Überlegungen bei J. Innes Miller, The Spice Trade of the Roman Empire, Oxford 1969, 16ff. und bei D. W. Mac Dowall, The Early Western Satraps and the Date of the Periplus, Numism. Chron. 4, 1964, 271ff.; 10, 1970, 221ff. In F. Altheims Polemik (F. Altheim—R. Stiehl, Die Araber in der Alten Welt IV, Berlin 1967, 492ff.; V 2, Berlin 1969, 536ff.) vermag ich beim besten Willen keinen Ansatzpunkt zu finden, von dem aus man in der Sache weiterkommen könnte.

[75] Ptolemy's Geography of India — his Sources, in: Archaeologica Orientalia in memoriam E. Herzfeld, New York 1952. Vgl. auch K. A. Nilakanta Sastri, The Colas, Madras ²1955, 85 und E. H. Johnston, Two Notes on Ptolemy's Geography of India, Journ. Roy. As. Soc. 1941, 213—222.

[76] Eines dieser Emporien der Koromandel-Küste, Arikamedu bei Pondichéry-Ποδούκη bei Ptolemaios (7, 4, 10), ist inzwischen bekanntlich ausgegraben worden und bezeugt die Intensität des Handels mit dem Römerreich im 2. Jh. n. Chr. Am Ende des 2. Jh. n. Chr.

Wenn unsere gewiß vereinzelten und von mancherlei Überlieferungszufällen bestimmten Zeugnisse aus Texten und Bodenfunden nicht trügen, darf man wohl annehmen, daß der Monsunhandel großen Stiles, der vom späten 1. Jh. v. Chr. bis zum späten 2. Jh. n. Chr. reichte, sich in drei Phasen gliedern läßt. Zunächst fuhr man vorzugsweise zur Malabarküste (und natürlich auch zu den Häfen der Westküste Nord- und Zentralindiens, die am Ende der übrigen von Plinius und im Periplus aufgezählten Monsunrouten lagen). Dort hatte man Anschluß an einen Überlandhandel zur Ostküste Indiens. Nur selten kam ein Schiff aus Ägypten in den Golf von Bengalen (Strab. 15, 1, 4). In der zweiten Phase, etwa seit der Mitte des 1. Jh. n. Chr., gab es auch direkten Seeverkehr zur Ostküste Indiens, jedoch schwächer gegenüber dem zur Westküste, wie das aus den Angaben des Periplus zu entnehmen ist. Später, in der dritten Phase, muß auch dieser Handel stärker geworden sein, wie sich das aus den Angaben des Ptolemaios ergibt[77].

Wie nun die Erschließung der Direktpassage über den Indischen Ozean nicht von der Erkundung der Westküste Südindiens zu trennen ist, so muß die Eröffnung eines Schiffsverkehrs zur Ostküste Indiens von einer Erkundung der Gewässer um das Kap Kormorin begleitet gewesen sein. Dabei aber ergaben sich neue Informationen über Ceylon[78], das bis dahin am aufblühenden Handel zwischen Ägypten und Südindien keinen Anteil gehabt hatte. Genau in diesen Zusammenhang aber gehört Plinius' Bericht über den Freigelassenen des Annius Plocamus und über die ceylonesische Gesandtschaft. Die Bemühungen um eine Ausweitung der Schiffahrt bis zur Ostküste führten zu Kontakten mit Ceylon, und zwar offensichtlich zur Zeit des Claudius. Das wird durch das Einsetzen der Funde römischer Münzen mit Stücken neronischer Zeit bestätigt. Und wie dem Aufschwung der Monsunschiffahrt zur Westküste des südlichen Indien die erste Gesandtschaft aus Südindien entspricht, die Augustus schon in den 20er Jahren des 1. Jh. v. Chr. empfing[79], so reagierte Ceylon mit einer Gesandtschaft an Claudius, als römische Kauf- oder Seeleute sich erstmals auf der Insel bemerkbar machten. Eine bedeutende Rolle im Indienhandel des Römerreiches gewann Ceylon allerdings nach Ausweis der bisher gemachten Bodenfunde während der hohen Kaiserzeit nie, und dieses Bild wird durch den Befund der schriftlichen Zeugnisse bestätigt. Die ältesten Römermünzen, die in Ceylon zutage traten, stammen, wie erwähnt, aus neronischer Zeit, und für das ganze 1. und 2. Jh. n. Chr. liefert Ceylon nur einen ganz beschei-

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hören die Funde auf. Cf. M. Wheeler, Rome beyond the Imperial Frontiers, London 1954, 170ff.

[77] Vgl. M. Wheeler, a. a. O. 172.

[78] Damit korrigiert sich, was ich 'Umstrittene Daten' 27 Anm. 24 über die Datierung der Ceylon-Kapitel des Plinius gesagt habe.

[79] Die Gesandtschaft kam vom König Pandion (Strab. 15, 1, 4), dem Eponym der südindischen Pandya (vgl. Plin. 6, 105; Ptolem. 7, 1, 11; Peripl. 54 und 59). Sie ist die einzige unter den für die augusteische Zeit bezeugten, die aus Südindien geschickt wurde. Vgl. E. H. Warmington, The Commerce between the Roman Empire and India, Cambridge 1928, 35ff.

denen Prozentsatz der römischen Münzen, die im Gesamtbereich Indiens bisher auftauchten. Weder die ausdrücklich als neu bezeichneten Informationen zur Geographie der Insel, die bei Plinius stehen (6, 84), noch die kurze Erwähnung der Insel im Periplus, der immerhin ihre Lage recht genau bezeichnet und ein paar Produkte des Landes nennt, lassen auf ein besonderes kommerzielles Interesse schließen, das man im 1. Jh. n. Chr. an Ceylon genommen hätte. Bei Ptolemaios, also im 2. Jh. n. Chr., ändert sich das Bild. Ptolemaios teilt erheblich mehr Details zur Geographie der Insel mit, die seit dem Ausgang des 1. Jh. n. Chr. bekannt geworden sein müssen (7, 4, 1ff.). Dazu bringt er eine lange Liste der Landesprodukte (§ 1) und weiß unter den zahlreichen Städten und Häfen auch zwei Emporia namhaft zu machen (Modutu § 7 und Tarakori § 8).

Die Lage ändert sich völlig im 4.—6. Jh. n. Chr. Während aus der Zeit von Nero bis Diokletian von insgesamt 27 Fundkomplexen römischer Münzen 25 aus Indien (davon 17 aus Südindien) stammen, kommen die im indischen Bereich gefundenen Münzen spätantiker Zeit (4.—6. Jh. n. Chr.) in 6 Fällen aus Indien (4 Süd-, 2 Nordindien) und in 20 Fällen aus Ceylon[80]. Diese Verschiebung läßt sich auch in der Literatur erkennen: Im sog. Commonitorium Palladii aus dem 4. Jh. und bei Kosmas im 6. Jh. n. Chr. steht Ceylon im Mittelpunkt des Interesses[81]. Freilich muß man dabei berücksichtigen, daß der Handel über den Indischen Ozean seit dem 4. Jh. n. Chr. unter gänzlich anderen Voraussetzungen abgewickelt wurde als in der hohen Kaiserzeit[82]. Der planmäßige, gesicherte und darum so umfangreiche Monsunhandel der griechischen Kaufleute aus Ägypten scheint in den Krisen des 3. Jh. n. Chr. weitgehend zusammengebrochen und trotz gelegentlicher Anstrengungen einzelner Kaiser (S.H.A. Macrin. 12; Firm. 6; trig. tyr. 21) auch nicht wieder in Gang gekommen zu sein. Das Emporium von Arikamedu, das einzige aus der Kaiserzeit, das bisher in Indien ausgegraben wurde, verliert am Ende des 2. Jh. n. Chr. seine Bedeutung, und Münzen des 3. Jh. n. Chr. sind in Indien bisher nur aus den letzten Jahren (Numerian, Carinus) bekannt geworden[83]. Seit dem 4. Jh. n. Chr. hören wir wieder von Fahrten nach Indien. Daß sie aber so häufig und alltäglich gewesen wären wie im 1. und 2. Jh. n. Chr., davon kann keine Rede sein. Nach dem Bild, das die Schriftquellen der hohen Kaiserzeit vermitteln, ist der Direktverkehr mit Indien im wesentlichen Sache der Kaufleute und Kapitäne aus Ägypten, mag auch gelegentlich ein Inder auf dem Seewege nach Alexandrien kommen (Xen. Eph. 3, 11)[84]. Im 4. Jh. n. Chr. dagegen scheinen an dieser Seefahrt Inder und vor allem Axumiten viel stärker beteiligt gewesen zu sein als im 1. und 2. Jh. n. Chr.[85] Für einen Bürger des Römerreiches bedeutete im 4. Jh. n. Chr., anders als in der hohen Kaiserzeit, die Indienfahrt ein Abenteuer[86]. Die Verlagerung der Gewichte im transozeanischen Handel von Südindien nach Ceylon, die man zwischen dem 2. und 4. Jh. n. Chr. beobachtet, steht in mindestens zeitlichem Zusammenhang nicht nur mit der Krise des Römerreichs im 3. Jh. n. Chr., sondern auch mit dem Erstarken der Aksumiten, die im 3. und 4. Jh. n. Chr. eine dominierende Position im Handel am Roten Meer und am Indischen Ozean erringen konnten[87]. Aksum unterhielt im 4. Jh. n. Chr. freundliche Beziehungen zu Rom, was man u. a. aus der Frumentios-Geschichte entnehmen kann[88]. So mag es sein, daß der im 4. Jh. n. Chr. in gewissem Umfang wiederauflebende Seehandel des Römerreiches mit Indien in Kooperation mit den Axumiten abgewickelt wurde und deren Märkte bevorzugte. Für wie wichtig man im Römerreich das Gebiet des Roten Meeres, die Schlüsselstellung des Indienhandels, hielt, und wie weit man von einer militärisch-kommerziellen Beherrschung dieses Raumes, wie sie im 1. und 2. Jh. n. Chr. bestanden hatte, entfernt blieb, lehrt alles, was wir aus dem 4. bis 6. Jh. n. Chr. aus diesem Gebiet hören[89]. Eine direkte Verbindung zu Indien und damit gelegentliche Besuche von Abendländern in Indien und Indern im Römischen Reich aber hat es in allen diesen Jahrhunderten gegeben[90].

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[80] Vgl. die Übersicht bei MILLER, Spice Trade 236ff. Von den Münzfunden augusteischer bis claudischer Zeit kommen 17 aus Süd- und 2 aus Nordindien.

[81] Pallad. de gent. Ind. 1, 4ff. BERGHOFF; Cosm. Ind. 3, p. 119 WINSTEDT. Nach Palladius residiert der König des ganzen Indien in Ceylon!

[82] Dieser Unterschied ist MILLER, Spice Trade 189ff. nicht klar geworden.

[83] Dem Stocken des Transozeanhandels im 3. Jh. n. Chr. entspricht der große Aufschwung Palmyras, das eine Schlüsselstellung im Überlandhandel zwischen der Mittelmeerwelt und Indien einnahm. Bis zur Katastrophe der Zenobia vermochte die Wüstenstadt ihre wirtschaftliche Stärke sogar in politische Hegemonie umzusetzen. (Vgl. H. J. W. DRIJVERS, Hatra, Palmyra und Edessa. Die Städte der syrisch-mesopotamischen Wüste in politischer, kulturgeschichtlicher und religionshistorischer Beleuchtung, ANRW II 8, hrsg. v. H. TEMPORINI u. W. HAASE, Berlin–New York 1978, 837ff., bes. 847ff.) An eine Blüte des ägyptisch-indischen Seehandels im 3. Jh. vermag ich trotz F. F. SCHWARZ, Neue Perspektiven in den griechisch-indischen Beziehungen, O.L.Z. 67, 1972, 20 nicht zu glauben. Die dort gegebenen Hinweise beziehen sich eben nicht auf den direkten Schiffsverkehr.

Doch zurück zum 2. Jh. n. Chr. Die fortschreitende Erschließung der Gewässer rund um die Südspitze Indiens und des Golfs von Bengalen konnten wir für die Zeit seit der zweiten Hälfte des 1. Jh. n. Chr. vermuten. In unmittelbarem Anschluß daran drangen griechische Seefahrer auch bis in die Gewässer Hinterindiens vor.

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[84] Vgl. o. S. 547.

[85] Vgl. Pallad. de gent. Ind. 1, 7 Berghoff; Cosm. Ind. 3 p. 119 Winstedt. Vgl. J. Desanges, D'Axoum à l'Assam aux portes de la Chine: Le Voyage du «scholasticus de Thèbes» (entre 360 et 500 après J.-C.), Historia 18, 1969, 627—639.

[86] Rufin hist. eccl. 10, 9 m. Par.; vgl. Dihle, Jb. f. Ant. u. Chr. 6, 1963, 65f.

[87] Vg.. etwa H. de Contenson, Les premiers rois d'Axoum d'après les découvertes récentes, Journ. Asiat. 248, 1960, 75ff. und J. Desanges, Une mention altérée d'Axoum dans l'Expositio totius mundi et gentium, Annal. d'Éthiopie 7, 1967, 141ff. mit einer Interpretation von Expos. tot. mund. 17 Riese.

[88] Vgl. 'Umstrittene Daten' 36ff.

[89] Grundlegend N. Pigulevskaja, Vizantija na putjach ve Indiju, Moskau 1951; dt. Ausgabe: Berlin–Amsterdam 1969 mit ausführlicher Rez. von F. F. Schwarz, O.L.Z. 67,1972, 7ff.

[90] Vgl. etwa Damasc. vit. Isid. p. 96 Zintzen.

V. Hinterindien

Der östliche Horizont geographischer Kenntnisse, die der Periplus des Roten Meeres verrät, verläuft am Ostrand des Golfs von Bengalen. Wir hören etliches von den festländischen Handelswegen von Indien nach China sowie von der Chryse, dem östlichen Land der Erde und einer daran anschließenden Insel gleichen Namens, von der das schönste Schildpatt kommt (63f.). Auch Plinius weiß etwas von der Halbinsel Malakka, doch bringt er das in Zusammenhang mit einigen recht undeutlichen Nachrichten über China und Zentralasien, ohne es mit der indischen Geographie in Beziehung zu setzen (6, 55). Der indische Bereich ist für ihn durch die Fixpunkte der Indus- und der Gangesmündung bestimmt (6, 72). Die Namen Chryse und Argyre kennt Plinius (6, 80) zur Bezeichnung zweier angeblich vor der Indusmündung gelegener Inseln, während bei Ptolemaios Argyre die Hauptstadt der Insel (7, 2, 29) Jabadiou (Java) ist und 'Αργυρᾶ und Χρυσῆ (sc. χώρα) zwei in südlicher oder östlicher Richtung einander folgende Landstriche des transgangetischen Indiens, also im Raum Burma-Malakka zu suchen sind (7, 2, 17). Bei Mela (3, 70) liegt die Insel Argyre vor dem Gangesdelta, die Insel Chryse am *promunturium Tamus*, wo der Taurus, der große, ganz Asien durchziehende Gebirgszug im äußersten Osten der Oikumene an das Weltmeer stößt[91]. Wie sich Mela im einzelnen die Geographie des fernen Ostens vorstellt, ist nicht ganz klar, zumal der Text an der einschlägigen Stelle nicht in Ordnung zu sein scheint[92] (3, 67ff.). Jedenfalls aber bezeichnet die Insel Chryse, dem Ostkap der bekannten Erde vorgelagert, den östlichsten Punkt der Weltkarte, und das entspricht der Rolle der Halbinsel und der Insel Chryse im Periplus des Roten Meeres. Chryse, sei damit nun Malakka oder das davon auch bei Ptolemaios nicht klar geschiedene Sumatra gemeint, wird auch in der Periegese des Dionysios (1134f.), also in einem literarischen Werk des späten 1. oder frühen 2. Jh. n. Chr., im fernsten Osten der Erde genannt. Chryse fehlt verständlicherweise bei den Autoren, die das Wissen der frühhellenistischen Zeit resümieren und die seit der Eudoxosfahrt bekannte Südausdehnung Indiens ignorieren (Arrian, Diodor). Aber auch dort, wo diese in späthellenistischer Zeit gewonnene Einsicht wenigstens gelegentlich berücksichtigt wird wie bei Plinius und Strabon, fehlt das Bewußtsein davon, daß man nunmehr danach fragen muß, was denn jenseits des Indien im Osten begrenzenden Meeres liege. Der Periplus des Roten Meeres ist der früheste uns bekannte Text, aus dem sich diese Fragestellung ableiten läßt.

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[91] Dieses Kap heißt bei Strabon (11, 11, 7) Tamaros; vgl. A. HERRMANN, R.E. 4 A, 2 (1932) s. v. Tamaros, 2092f.

[92] Vgl. dazu die Vorschläge von L. MALAVIALLE (La carte de l'Inde d'après Pomponius Mela, Ann. de Géogr. 15, 5, 1900, 251ff. und DERS., Le littoral de l'Inde d'après Pomponius Mela, Rev. de Philol. 24, 1900, 19ff.), der den Passus *oras tenent ab Indo ad Gangem Palibothri, a Gange ad Colida, nisi magis quam habitetur exaestuat, atrae gentes et quodammodo Aethiopes* in *oras tenent a Tamo ad Gangem Palibothri, a Gange ad Colida . . . a Colide ad Indum . . .* ändern will.

Für die Autoren des 2. Jh. n. Chr. hingegen, für Marinos und Ptolemaios, bedeutet die durch die Küste Burmas, durch Malakka und Sumatra gebildete Linie nicht mehr die Ostgrenze der bekannten Welt. Ptolemaios entwirft eine detaillierte, wenn auch eingestandenermaßen hypothetische Karte der Länder und Gewässer östlich von Chryse, und fortan ist Kattigara der östlichste Fixpunkt der bekannten Oikumene[93]. In demselben Zeitmaß, in dem an der Ostküste Afrikas der südlichste Punkt, von dem man Kunde hat, vom Kap Guardafui (Artemidor/Strabon) über Rhapta (Periplus) nach Kap Prason (Ptolemaios) vorrückt, erweitert sich der östliche Horizont von der Gangesmündung und dem Kap Kory (Strabon) über Chryse (Periplus) bis nach Kattigara (Ptolemaios). Der bei Ptolemaios dokumentierte Wissensstand bleibt auch später verbindlich.

Ebenso nun, wie Marinos und Ptolemaios den Seefahrer namhaft machen konnten, der an der afrikanischen Küste über Rhapta hinaus südwärts bis Prason vorgedrungen war (Dioskoros; 1, 9, 4 und 1, 14, 3), führten sie die Erschließung der Gewässer Hinterindiens auf die Fahrt eines bestimmten Mannes zurück (1, 14, 1ff.), die nach allem, was eben erörtert wurde, nicht lange vor Marinos, also um 100 n. Chr., stattgefunden haben kann[94]. Dieser Alexandros überwand die Barriere, die durch die Halbinsel Malakka und die Inseln Sumatra und Java gebildet wird, er erschloß die Gewässer Hinterindiens und gelangte bis Kattigara.

Die Geographie des Ptolemaios bezeugt einige Bekanntschaft mit Ländern und Gewässern östlich der Straße von Malakka (7, 3, 1ff.), und alle Angaben aus diesem Gebiet, die sich bei späteren Autoren finden, sind offenbar von Ptolemaios abhängig, ohne an irgendeinem Punkt über ihn hinauszuführen[95]. Die besten und z. T. verifizierbaren Nachrichten[96] liefert Ptolemaios von der Ostseite der Halbinsel Malakka, während weitere Einzelheiten wenig überzeugend beschrieben und lokalisiert werden. Ptolemaios' Positionsberechnungen liefern in diesem ganzen Bereich keine Grundlage für eine genauere Interpretation. Das hat schon P. WHEATLEY mit Recht hervorgehoben, und es gilt sowohl für die Zahlenangaben im Text wie für die Lokalisierung einzelner Orte auf den Karten, die manchen Ptolemaios-Handschriften beigegeben sind und mindestens partiell eine eigene Tradition repräsentieren[97]. So erscheint beispielsweise die Stadt Zabai, wichtige Station auf der Reise des Alexandros, sowohl in der Erörterung dieses Unternehmens anläßlich weltgeographischer Grundsatzfragen (1, 14, 1) als auch auf der Landkarte des Cod. Venetus 516, nicht aber in der systematischen Beschreibung des transgangetischen Indien (7, 3, 1ff.).

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[93] z. B. Marc. peripl. mar. exter. 1, 46.

[94] Es war kein guter Einfall von E. Polaschek (R.E. Suppl. 10 [1965] s. v. Ptolemaios als Geograph, 700f.), diesen Alexandros nicht als Kapitän der Zeit um 100 n. C., sondern als Literaten zu betrachten und mit Alexander Polyhistor (sullanische Zeit) gleichzusetzen. Als wichtigstes Argument dafür dient der Hinweis, daß die bei Ptolemaios 1, 14 zu lesenden Angaben über Fahrtdauer und -richtung kaum dem Logbuch eines Seefahrers entnommen sein können. Hier wird übersehen, daß Ptolemaios nicht eigentlich den Alexandros zitiert, sich vielmehr mit der Auswertung der Mitteilungen des Alexandros durch Marinos auseinandersetzt. Daß ein Mann wie Alexander Polyhistor im 1. Jh. v. Chr. substantielle Angaben über die Fahrt nach Kattigara machen konnte, dagegen spricht alle Wahrscheinlichkeit, am meisten der Befund bei Plinius und im Periplus des Roten Meeres, der selbst im 1. Jh. n. Chr. auf keinerlei geographisches Wissen von den Gewässern jenseits der Straße von Malakka schließen läßt. Ptolemaios nennt zudem den Alexandros in einem Atem mit Kapitänen, wie Dioskoros, Theophilos und Diogenes (1, 14, 3; 1, 9, 4), denen die progressive Erforschung der Küste Ostafrikas gelang.

[95] z. B. Markian oder die frühislamischen Geographen.

[96] Vgl. P. Wheatley, The Golden Chersonese, The Institute of British Geographers: Transactions and Papers 21 (1955), 61—78 und Ders., The Malay Peninsula as known to the West before A.D. 1000, Malayan Historical Journal 3, 1956, 2—16.

Während nun Ptolemaios' Mitteilungen vom Goldenen Chersonnes und vom Hinterland der Hafenstadt Kattigara den Eindruck erwecken, als seien sie auf Grund verschiedenartiger Informationen aus dem östlichen Schiffsverkehr erarbeitet worden, scheint die Position des eigentlichen Angelpunktes der östlichen Topographie, nämlich der Stadt Kattigara selbst, allein aus dem Fahrtbericht des Alexandros abgeleitet zu sein, um dessen Interpretation es bereits zwischen Marinos und Ptolemaios Differenzen gab. Die lange Erörterung in der Einleitung des Werkes (1, 14) läßt daran keinen Zweifel.

Wo Kattigara, seit Ptolemaios unbestritten der östlichste Fixpunkt der bekannten Welt, zu suchen sei, darüber gibt es in der Forschung eine bis heute nicht entschiedene Kontroverse, in deren Verlauf nahezu jeder Hafenplatz zwischen Singapore, Manila und Kanton schon einmal vorgeschlagen wurde[98]. Der Bericht des Alexandros, soweit man ihn aus Ptolemaios (1, 14) rekonstruieren kann, ist eben voll von Unsicherheitsfaktoren.

Zunächst wissen wir nicht, ob Alexandros durch die Straße von Malakka oder die — nautisch bequemere — Passage zwischen Sumatra und Java in die Gewässer Hinterindiens gelangte[99], denn es gibt keinen Passus in der kaiserzeitlichen Literatur, der eine klare Unterscheidung zwischen Malakka und Sumatra bezeugte. Auch im Fall des Periplus, der eine Insel und ein Festland Chryse im äußersten Osten kennt (63), läßt sich nicht sagen, ob mit der Insel Sumatra oder Java oder überhaupt eine der großen Sundainseln gemeint ist. Ἀπὸ τῆς Χρυσῆς Χερσονήσου ging die Fahrt des Alexandros 20 Tage an einer nach Süden blickenden Küste entlang, also doch vermutlich in östlicher Richtung. Das läßt sich an unseren Landkarten nicht verifizieren, jedenfalls nicht, wenn man dieses Stück der Fahrt bei einer der beiden möglichen Durchfahrten beginnen läßt. Sollte aber gemeint sein, daß die Fahrt von 20 Tagen von einem Punkt ganz im Nordosten der Ostküste Malakkas ausging und etwa bis nach Bangkok führte, müßte man voraussetzen, daß die Χρυσῆ Χερσόνησος wirklich exklusiv als die vom asiatischen Festland zu trennende Halbinsel Malakka verstanden worden sei, was in dieser klaren Weise nicht bezeugt ist. Eine andere Schwierigkeit kommt hinzu. Im Fahrtbericht des Alexandros im 1. Buch des Ptolemaios ist keine Rede vom Μέγας Κόλπος, einem wichtigen Detail im Rahmen des Gesamtentwurfs östlicher Geographie im 7. Buch des Ptolemaios, auf den dazugehörigen antiken Landkarten und bei späteren, von Ptolemaios abhängigen Geographen. Dieser Μέγας Κόλπος kann nichts anderes sein als der Golf von Siam. An der Nord- bzw. Nordwestküste dieses Golfs hätte die Fahrt entlang gehen müssen, wenn man die Route der ersten 20 Tage verifizieren möchte. Nun heißt es aber weiter, daß Alexandros von der Stadt Zabai aus in einigen Tagen — die Marinos für viele Tage hielt — in südöstlicher Richtung weiterfahrend nach Kattigara gekommen sei. Diese Fahrtstrecke scheint nicht an einer Küste entlang geführt zu haben, denn einmal sagt Ptolemaios nichts von solchen Fahrtbedingungen wie im Fall der ersten Fahrtstrecke, und zweitens rechnet Ptolemaios im Gesamtentwurf seiner östlichen Geographie (7. Buch, Landkarte) Kattigara offenbar nicht zu Indien (wie den Goldenen Chersonnes), sondern zu China (ὅρμος Σίνων)[100]. Dazu paßt wiederum, daß auf der Landkarte im Venetus 516 die Stadt Zabai an der Westseite des südlichen Ausganges des Μέγας Κόλπος liegt, die letzte Fahrtstrecke des Alexandros also südlich von dieser großen Meeresbucht in südöstlicher Richtung hinüber zu einem anderen Festland führte. Es ist deutlich, daß sich auf der Basis der Angaben, die sich über die Reise des Alexandros und über den Verlauf ihrer Teilstrecken bei Ptolemaios finden, keine vernünftige und widerspruchsfreie Rekonstruktion der Route an Hand moderner Karten erzielen läßt.

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[97] Zur überlieferungsgeschichtlichen Bedeutung der Landkarten in den Ptolemaios-Handschriften vgl. 'La Géographie de Ptolémée — L'Inde', éd. L. RENOU, Paris 1925, VII und Xff. Die Karten des Venetus 516 sind in dieser Ausgabe reproduziert.

[98] Vgl. etwa R. HENNIG, Terrae incognitae I, Leiden ²1944, 406ff.; G. COEDÈS, Les États hindouisés d'Indochine et d'Indonésie, Paris ²1964, 78ff.; A. HERMANN, R.E. 11,1 (1921) s. v. Kattigara, 46ff.; J. INNES MILLER, The Spice Trade of the Roman Empire, Oxford 1969, 273f.; POLASCHEK, R.E. Suppl. 10 (1965) s. v. Ptolemaios als Geograph, 703 u. v. a.

[99] Diesen Weg nahm auch Fa-hsien auf seiner Reise von Ceylon nach China (GILES, p. 78).

Vollends aller Erklärung aber spottet die mathematische Positionsbestimmung, die Ptolemaios für Kattigara liefert. Die Stadt soll südlich des Äquators liegen, aber doch auf dem Territorium Chinas an der Mündung des Kattigaris und von der Landeshauptstadt (Θίναι) aus durch eine Landverbindung zu erreichen[101]. (Θίναι liegt denn auch dementsprechend nach Ptolemaios nur wenig nördlicher als der Äquator.) Alle bisher angestellten Versuche, diese beiden Mitteilungen sinnvoll zu interpretieren, sind gescheitert. Natürlich ist es denkbar, daß Kattigara ein Hafen irgendwo in Indonesien war, den chinesische Schiffe anliefen (ὅρμος Σίνων) und wo sich deshalb Handelskontakte zwischen Chinesen und Kaufleuten aus Ägypten entwickeln konnten. Auf der anderen Seite kann aber kein Zweifel daran bestehen, daß Ptolemaios und seine Nachfolger Kattigara als Hafen auf chinesischem Territorium betrachteten. Die Unmöglichkeit, aus dem Text des Ptolemaios Hinweise auf die Lage Kattigaras zu gewinnen, kommt einfach daher, daß die Positionsbestimmung nur aus dem Bericht des Alexandros abgeleitet war, der als erster Grieche jene östlichen Gewässer befahren hatte. Mit welchen Unsicherheitsfaktoren eine derartige Berechnung verbunden sein mußte, zeigt wiederum der Bericht des Fa-hsien. Er bestieg in Java ein Schiff, um auf einer offenbar vielbefahrenen und wohlbekannten Route nach Kanton zu fahren. Die Schiffer rechneten mit einer Fahrt von 50 Tagen und verproviantierten sich entsprechend. Infolge ungünstiger Witterungsverhältnisse gelangte man aber in 82 Tagen bis Chang Kuang in der Provinz Shantung, weit nördlich von Kanton, ohne daß irgend jemand gemerkt hatte, wie weit man nach Norden gekommen war[102]. Hätte ein Ptolemaios aus diesem Bericht die Lage der Küste Chinas im Verhältnis zu Java bestimmen sollen, es wäre eine Landkarte mit Fehlern von einigen Tausend Kilometern daraus geworden.

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[100] Im Μέγας oder Μέγιστος κόλπος, bei Markian (peripl. mar. ext. 1, 46) auch Σίνων κόλπος genannt, verläuft die Grenze zwischen transgangetischem Indien und China (ebd. 1, 16). Die Landgrenze zwischen beiden Gebieten muß demnach irgendwo auf die Nordküste des κόλπος stoßen.

[101] Bei Markian (Peripl. mar. ext. 1, 16) ist folgerichtig Θίναι der östlichste Punkt der bekannten Erde (nach 1, 46 Kattigara).

Es kommt noch ein anderes Moment hinzu. Ptolemaios hat offenbar die spärlichen Informationen aus Hinterindien sogleich zu einer Theorie in Beziehung gesetzt, die schon bei Hipparchos nachweisbar ist und während der fortlaufenden Erschließung des südlichen Indischen Ozeans aktuell blieb: Gibt es einen Kontinent, der Indien oder China mit Afrika im Süden verbindet und aus dem Indischen Ozean ein großes 'Binnenmeer' macht? Ptolemaios hegte diese Meinung[103] — im Gegensatz zu dem von geographischen Theorien unberührten Verfasser des Periplus (18) — und war wohl schon deshalb geneigt, die Landmasse, die den Ozean im Osten zu begrenzen schien, möglichst weit nach Süden hinunterzuziehen, um auf diese Weise Anschluß an den postulierten Südkontinent zu finden und doch dem Indischen Ozean seine Südausdehnung nicht zu beschneiden. China, das östlichste Land der Oikumene, geriet auf diese Weise weit in den Süden. Ob aber das, was sich Ptolemaios und alle Späteren auf Grund der vorliegenden Informationen als östliche Begrenzung der Gewässer jenseits des Goldenen Chersonnes vorstellten, in der Realität der Westküste Kambodschas und Südvietnams entspricht[104], oder ob hier eine, wenn auch undeutliche, Kunde von dem 'Meereskorridor' greifbar wird, der von der Nordwestküste Borneos, den Philippinen und Formosa im Osten begrenzt wird, das zu entscheiden reicht die uns gegebene Textgrundlage nicht aus.

Vielleicht wird es möglich sein, zur Lage Kattigaras besser begründete Vermutungen anzustellen als bisher, wenn die archäologische Erforschung Südostasiens weitere Fortschritte gemacht[105] und Bodenfunde neue Hinweise auf die mögliche Lage wichtiger Hafenorte gegeben haben, an denen sich ein Handel zwischen Chinesen, Malayen und Kaufleuten aus dem Römerreich im 2. Jh. n. Chr. entwickeln konnte. Denn daß in diesem Jahrhundert nach Alexandros auch noch andere Schiffer oder Kaufleute bis in den Fernen Osten gekommen sind, dafür gibt es mehrere Anzeichen, auch wenn man die Bodenfunde — z. B. aus Oc Eo im Mekong-Delta — außer Acht läßt, denn von ihnen beweist bisher keiner griechisch-römischen Direktimport. Es wurde schon erwähnt, daß Ptolemaios aus Südostasien Einzelheiten mitteilt, die vermutlich im Bericht des Alexandros nicht vorkamen, daß er demnach auch andere Informationsquellen für diesen Bereich gehabt hat. Schließlich ist der vielbehandelten Stelle aus den Han-Annalen zu gedenken, nach der im Jahre 166 n. Chr. Gesandte vom römischen Kaiser 'Antun' an den chinesischen Hof kamen[106]. Daß es sich hier nicht um Gesandte, sondern um Kaufleute gehandelt haben muß, ist ebenso sicher wie der Umstand, daß sie von Süden, d. h. mindestens bis Indochina (Annam), vielleicht sogar bis Kanton über See kamen[107]. Sie beklagten sich ausdrücklich über die Blockierung des Landweges durch die Parther[108].

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[102] Fa-hsien übers. v. GILES, Cambridge 1926, p. 78/79.

[103] Ptolem. 7, 2, 1. Zu Hipparch vgl. D. R. DICKS, The Geographical Fragments of Hipparchus, London 1960, 115f. Auch Euhemeros' und Jambulos' Romane scheinen diese Theorie vorauszusetzen.

[104] Vgl. G. COEDÈS, Etats hindouisés 83.

[105] L. MALLERET, L'archéologie du delta du Mékong, Paris 1959ff., III 115f. und 421ff. G. COEDÈS, États hindouisés 41f. und 78.

Die Unsicherheiten und Widersprüchlichkeiten der Geographie Hinterindiens und Chinas, wie sie sich bei Ptolemaios finden, geben jedoch einen deutlichen Hinweis auf den sehr begrenzten Umfang eines ägyptischen (griechisch-römischen) Direkthandels mit diesen Ländern. Die Fahrt des Alexandros hatte keine kommerziellen Konsequenzen, die man mit denen der Erschließung der Monsunpassage vergleichen könnte. Die 80 bis 100 Jahre, die zwischen dem Unternehmen des Alexandros und dem drastischen Rückgang des ägyptisch-indischen Direkthandels liegen, wurden offenbar nicht dazu verwendet, in Südindien, Ceylon und Malakka die Stützpunkte einzurichten, deren ein dichter und geregelter Seeverkehr zwischen Alexandrien bzw. Myos Hormos oder Berenike und Kattigara bedurft hätte[109]. Die griechische Seefahrt in den Gewässern Hinterindiens blieb sporadisch, denn sie vermochte im Laufe der ersten Jahrzehnte des 2. Jh. n. Chr. nicht das Maß an Informationen zu liefern, auf das sich ein detailliert ausgeführter und im ganzen zuverlässiger geographischer Entwurf hätte gründen können, wie das für Südindien im Laufe des 1. Jh. n. Chr. möglich geworden war. Es ist zwar nicht ausgeschlossen, daß archäologische Forschung noch einmal Gegenstände zutage fördert, die einen intensiveren Südostasienhandel griechischer Schiffe für das spätere 2. Jh. n. Chr. bezeugen. Sollte jedoch dieser Fall eintreten, bliebe zu erklären, warum in der ganzen griechisch-lateinischen Literatur seit der Mitte des 2. Jh. n. Chr.[110] sich kein Hinweis auf irgendeine Erweiterung des geographischen Horizontes über den bei Ptolemaios erreichten Stand hinaus nachweisen läßt. Vorerst kann man nur sagen, daß die Entdeckungsfahrten des 2. Jh. v. Chr. im Indischen Ozean nach einer Reihe von Jahrzehnten zur Entfaltung eines kommerziellen Aktivität führten, die ihrerseits aus dem indischen Subkontinent für zwei Jahrhunderte eine Terra Cognita in der Vorstellungswelt des griechisch-römischen Kulturbereiches machte. Die Entdeckungsfahrten in die Gewässer Hinterindiens und Indonesiens hatten solche Konsequenzen nicht, wenn auch ihre Bedeutung von der geographischen Wissenschaft erkannt wurde und reichlich zwei Generationen lang die politischen und ökonomischen Voraussetzungen bestanden, das neu entdeckte Gebiet kommerziell zu durchdringen.

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[106] Übersetzung der Stelle am bequemsten zugänglich bei R. Hennig, Terrae incognitae I, Leiden ²1944, 434ff.

[107] Dafür, daß ein Kaufmann oder Reisender aus dem Römerreich auf dem Landweg der Seidenstraße bis nach China gelangte, gibt es bisher kein Zeugnis. Maës Titianos aus Damaskos und seine Agenten, nach deren Itinerarien Marinos und Ptolemaios die Geographie Zentralasiens entwarfen (A. Hermann, Die Beziehungen zwischen China und dem Römischen Reich, Die Saalburg [Mitt. d. Ver. d. Saalburgfreunde] 2, 3, 1928, 65ff. und Ders., Lou-lan, Leipzig 1931, 28ff.; R. Hennig, a. a. O. 401ff. und Miller, Spice Trade 119ff. mit weiterer Literatur), scheinen zwar um 100 n. Chr. Handel mit chinesischen Waren getrieben und vielleicht sogar in Ferghana Kontakt mit chinesischen Partnern gehabt zu haben. Eine direkte Landverbindung nach China wurde jedoch nicht hergestellt. Es gab die Landverbindung von Bengalen über Assam oder Burma nach China, die schon der Periplus (64) im späten 1. Jh. n. Chr. erwähnt und über die vielleicht überhaupt die ersten Gäste aus dem Römerreich am Anfang des 2. Jh. n. Chr. nach China gelangten (vgl. den chinesischen Quellentext bei R. Hennig, a. a. O. 419ff., dazu H. H. Dubs, A Roman City in Ancient China, London 1957, Anm. 11).

[108] Zur Aufnahme des direkten Handelsverkehrs zwischen Parthern und Chinesen vgl. H. H. Dubs, a. a. O. Anm. 9.

[109] Umgekehrt ist auch daran zu erinnern, daß zwar aus der Zeit zwischen dem späten 2. Jh. v. Chr. (Chang-Kien) und dem frühen 5. Jh. n. Chr., als der schon mehrfach erwähnte Fa-hsien

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seine Pilgerfahrt unternahm, eine Anzahl von Zeugnissen für die Anwesenheit chinesischer Besucher in Indien, Ceylon und Indonesien vorhanden sind (vgl. außer der Übersetzung des Berichtes des Fa-hsien die Texte bei R. Hennig, a. a. O. 252ff., 323ff., 394ff.). Kein Indiz spricht aber dafür, daß es damals eine regelmäßige chinesische Schiffahrt in jene Gegenden gegeben habe. Inder (R. Hennig 376ff.) und Malayen (ebd. 424ff.) waren weit bessere und eifrigere Seefahrer. Vgl. zum Ganzen Miller, Spice Trade 184ff. sowie Coedès, États hindouisés 47 (mit weiterer Literatur). Die Bedeutung der indischen Zwischenstationen zeigt sich in dem Umstand, daß die griechisch-römischen Objekte aus der Antoninenzeit, die in Oc Eo am Mekong-Delta zutage traten, zusammen mit indischen Gegenständen gefunden wurden (L. Malleret, L'archéologie du delta du Mékong, III, Paris 1962, 115).

[110] Die Textstellen gesammelt bei G. Coedès, Textes d'auteurs grecs et latins relatifs à l'Extrême Orient, Paris 1910.

China and Rome

by JOHN FERGUSON, Milton Keynes*

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I. Early Contacts between China and the West

Direct contact between China and the countries of the Near East does not antedate the Han dynasty (206 BC — AD 220), but we can trace movement of goods and perhaps ideas long before that.

Lapis lazuli from Afghanistan was reaching Mesopotamia and Egypt before 3000 BC; this means that there was mobility along a substantial part of what later became the overland silk route. Equally astonishingly, the socketed celt, characteristic of Late Bronze Age culture in central and eastern Europe, travelled, perhaps over a period of centuries, somehow through the nomadic peoples of the Russian steppes till it reached China, perhaps in the sixth century BC. Aristeas of Proconnesus in the seventh or sixth century BC seems to have journeyed with a Scythian caravan far into central Asia to the Issedones. It has been argued that the impassable mountains he records were the Altai[1], and the Issedones lived around the eastern end of the T'ien Shan range. Beyond the Issedones Aristeas knew of mysterious people called the Arimaspi, and beyond them the Hyperboreans. His compass-points have gone awry, but the most plausible identification of the Hyperboreans is with the Chinese. But the Scythian caravan-routes were cut somewhere about 400 BC, and even distant mutual awareness between China and the Mediterranean world was not renewed for some centuries. The reference to the Seres in Ctesias is a later interpolation; Aristotle is not referring to Chinese silk in his account of Coan textiles, but to some coarser local insect-product[2]; even Alexander knew nothing of the Chinese, — and Onesicritus does not, as is sometimes alleged, mention them[3]. Not till the last part of the second century BC is there any real mutual contact.

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* [Die Fußnoten mit den ausführlichen Zitaten der Quellentexte wurden nach Materialien des Verfassers von A. F. WENSLER (Tübingen) für den Druck eingerichtet. — H. T.]

[1] Hdt. 4, 21—25, esp. 25: Μέχρι μὲν δὴ τούτων γινώσκεται, τὸ δὲ τῶν φαλακρῶν κατύπερθε οὐδεἰς ἀτρεκέως οἶδε φράσαι. ὄρεα γὰρ ὑψηλὰ ἀποτάμνει ἄβατα καὶ οὐδείς σφεα ὑπερβαίνει. . . . ἀλλὰ τὸ μὲν πρὸς ἠῶ τῶν φαλακρῶν γινώσκεται ἀτρεκέως ὑπὸ Ἰσσηδόνων

II. The Evidence of the Ancient Geographers

Geographical knowledge of the peoples of China by western geographers was limited and speculative, and naturally of second-hand derivation: it is not such that it is possible to co-ordinate all the alleged information with a modern atlas.

The Seres (the name is the same as that given to the silkworms and is no doubt derived from the Chinese *ssu*), are first heard of towards the end of the pre-Christian era, since an alleged reference in Hecataeus must be discounted like the one in Ctesias. Our main information is from Ptolemy[4],

οἰκεόμενον, τὸ μέντοι κατύπερθε πρὸς βορέην ἄνεμον οὐ γινώσκεται οὔτε τῶν φαλακρῶν οὔτε τῶν 'Ισσηδόνων, εἰ μὴ ὅσα αὐτῶν τούτων λεγόντων.

[2] Aristotle, Hist. An. 5, 19, 551b 10: ἐκ δέ τινος σκώληκος μεγάλου, ὃς ἔχει οἷον κέρατα καὶ διαφέρει τῶν ἄλλων, γίγνεται πρῶτον μὲν μεταβάλλοντος τοῦ σκώληκος κάμπη, ἔπειτα βομβυλίς, ἐκ δὲ τούτου νεκύδαλος· ἐν ἓξ δὲ μησὶ μεταβάλλει ταύτας τὰς μορφὰς πάσας. ἐκ δὲ τούτου τοῦ ζῴου καὶ τὰ βομβύκια ἀναλύουσι τῶν γυναικῶν τινες ἀναπηνιζόμεναι, κἄπειτα ὑφαίνουσι· πρώτη δὲ λέγεται ὑφῆναι ἐν Κῴ Παμφίλη Πλάτεω θυγάτηρ.

[3] Strabo 15, 1, 34—37, esp. 34: . . . λέγει δὲ (sc. Onesicritus) καὶ περὶ τῆς Μουσικανοῦ χώρας ἐπὶ πλέον ἐγκωμιάζων αὐτήν, ὧν τινα κοινὰ καὶ ἄλλοις 'Ινδοῖς ἱστόρηται, ὡς τὸ μακρόβιον, ὥστε καὶ τριάκοντα ἐπὶ τοῖς ἑκατὸν προσλαμβάνειν (καὶ γὰρ τοὺς Σῆρας ἔτι τούτων μακροβιωτέρους τινές φασι) καὶ τὸ λιτόβιον καὶ τὸ ὑγιεινόν, κτλ. 37: 'Αρίστη δ' ὁμολογεῖται πᾶσα ἡ τοῦ 'Υπάνιος πέραν· οὐκ ἀκριβοῦνται δέ, ἀλλὰ διὰ τὴν ἄγνοιαν καὶ τὸν ἐκτοπισμὸν λέγεται πάντ' ἐπὶ τὸ μεῖζον ἢ τὸ τερατωδέστερον· . . . ὡς τοὺς Σῆρας μακροβίους φασί, πέρα καὶ διακοσίων ἐτῶν παρατείνοντας.

[4] Ptolemy, Geogr. 1, 11—14: 11. Περὶ τῶν εἰς τὸ μῆκος τῆς οἰκουμένης ὑπὸ τοῦ Μαρίνου μὴ δεόντως ἐπιλελογισμένων. . . . ἡμῖν δὲ δοκεῖ . . . τὸ πᾶν μῆκος μηδὲ ὅλων ἂν δώδεκα συσταθῆναι διαστημάτων ὡριαίων, ἐπὶ μὲν δυτικωτάτου πέρατος ὁμοίως τιθεμένων τῶν Μακάρων νήσων, ἐπὶ δὲ τοῦ πρὸς ἀνατολὰς τῶν ἀπηλιωτικωτέρων μερῶν Σήρας τε καὶ Σινῶν καὶ Καττιγάρων.
Ptolemy, Geogr. 6, 16: Σηρικῆς θέσις, ib. 7, 3: Σινῶν θέσις. 8, 24: 'Ασίας Πίναξ η'. 'Ο ὄγδοος πίναξ τῆς 'Ασίας περιέχει τὴν ἐκτὸς 'Ιμάου ὄρους Σκυθίαν καὶ τὴν Σηρικὴν κτλ.

but there is useful additional material in Pliny[5], Pausanias[6], Mela[7], and Ammianus Marcellinus[8]. Strabo's reference is curiously perfunctory[9]. In addition a number of literary allusions show that they were familiar to the educated reader, principally as the source of silk, but also of skins and iron (presumably from the Altai). They were in fact the furthest source of silk known to the Roman world along the land-route, the western neighbours of the Chinese proper or the Chinese themselves. Ptolemy says that their territory was bounded to the east by the Sinae, to the south by India, to the west by Scythia and to the north-east by unknown peoples, though Pliny extends their territory as far as the sea. Pausanias[10] says that they were a mixture of Scythians and Indians; there is some confusion with a Red Sea island called Masira, but the attribution could apply to Central Asia. Pliny also describes them as tall with blue eyes, red hair and harsh voices. The people so described were no doubt the Kunmis, one but one only of the tribes of this region, which extends from Siberia to India. The Seres had some reputation as bowmen[11] and also as charioteers[12]. Like many unknown peoples they acquired a reputation for long life and justice. They used a system of barter, also found in Africa, by which they deposited their goods; the Scythian traders examined these and deposited a sum of money; the Seres then had the choice between removing the money or the goods.

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[5] Pliny, N.H. 6,20 (53—55): *A Caspio mari Scythicoque oceano in Eoum cursus inflectitur ad orientem conversa litorum fronte. inhabitabilis eius prima pars a Scythico promunturio ob nives, proxima inculta saevitia gentium. Anthropophagi Scythae insident humanis corporibus vescentes; ideo iuxta vastae solitudines ferarumque multitudo haut dissimilem hominum inmanitatem obsidens. iterum deinde Scythae iterumque deserta cum beluis, usque ad iugum incubans mari quod vocant Tabim; nec ante dimidiam ferme longitudinem eius orae quae spectat aestivom orientem inhabitatur illa regio. primi sunt hominum qui vocantur Seres, lanicio silvarum nobiles, perfusam aqua depectentes frondium canitiem, unde geminus feminis nostris labos redordiendi fila rursusque texendi ... Seres mites quidem, sed et ipsi feris similes coetum reliquorum mortalium fugiunt, commercia exspectant. primum eorum noscitur flumen Psitharas, proximum Cambari, tertium Lanos, a quo promunturium Chryse, sinus Cirnaba, flumen Atianos, sinus et gens hominum Attacorarum, apricis ab omni noxio adflatu seclusa collibus, eadem qua Hyperborei degunt temperie; de iis privatim condidit volumen Amometus, sicut Hecataeus de Hyperboreis. ab Attacoris gentis Thuni et Focari, et, iam Indorum, Casiri introrsus ad Scythas versi humanis corporibus vescuntur; Nomades quoque Indiae vagantur huc. aliqui ab aquilone contingi ab ipsis et Ciconas dixere et Brisaros.*

Pliny, N.H. 6,24 (88): *Ultra montes Hemodos Seras quoque ab ipsis aspici notos etiam commercio: patrem Rachiae commeasse eo: advenis ibi Seras occursare. ipsos vero excedere hominum magnitudinem, rutilis comis, caeruleis oculis, oris sono truci, nullo commercio linguae.*

[6] Pausanias 6, 26, 6ff. ... ἔστιν ἐν τῇ γῇ ζωύφιόν σφισιν (sc. the Seres), ὃν σῆρα καλοῦσιν Ἕλληνες, ὑπὸ δὲ αὐτῶν Σηρῶν ἄλλο πού τι καὶ οὐ σὴρ ὀνομάζεται ..... ταῦτα τὰ ζῷα τρέφουσιν οἱ Σῆρες .... — γιγνώσκεται δὲ ἡ Σηρία νῆσος ἐν μυχῷ θαλάσσης κειμένη τῆς Ἐρυθρᾶς. ἤκουσα δὲ καὶ ὡς οὐχ ἡ Ἐρυθρά, ποταμὸς δὲ ὃν Σῆρα ὀνομάζουσιν, οὗτός ἐστιν ὁ ποιῶν νῆσον αὐτήν, ὥσπερ καὶ Αἰγύπτου τὸ Δέλτα ὑπὸ τοῦ Νείλου καὶ οὐχ ὑπὸ μιᾶς περιέχεσθαι θαλάσσης· τοιαύτην ἑτέραν καὶ τὴν Σηρίαν νῆσον εἶναι. οὗτοι μὲν δὴ τοῦ Αἰθιόπων γένους αὐτοί τέ εἰσιν οἱ Σῆρες καὶ ὅσοι τὰς προσεχεῖς αὐτῇ νέμονται νήσους, Ἄβασαν καὶ Σακαίαν· οἱ δὲ αὐτοὺς οὐκ Αἰθίοπας, Σκύθας δὲ ἀναμεμιγμένους Ἰνδοῖς φασιν εἶναι.

[7] Mela 3,7 (59f.): *Ab his in Eoum mare cursus inflectitur, inque oram terrae spectantis orientem. Pertinet haec a Scythico promontorio ad Colida: primumque omnis est invia; deinde ob immanitatem habitantium inculta. Scythae sunt Androphagi et Sacae, distincti regione, quia feris scatet, inhabitabili. Vasta deinde iterum loca belluae infestant, usque ad montem mari imminentem, nomine Tabin. Longe ab eo Taurus attollitur. Seres intersunt, genus plenum iustitiae, ex commercio, quod rebus in solitudine relictis absens peragit, notissimum.*

[8] Ammianus 23,6,64: *Ultra haec utriusque Scythiae loca, contra orientalem plagam in orbis speciem consertae, celsorum aggerum summitates ambiunt Seras ubertate regionum et amplitudine circumspectos, ab occidentali latere Scythis adnexos, a septentrione et orientali nivosae solitudini cohaerentes ...*

[9] See note 3. [10] See note 6.

Ptolemy, being a physical geographer, does not offer any hazards about the political organization of the vast terrain he calls Serica, which occupies well over a million square miles. The general geographical features he describes make sense. The Anniba mountains in the north are the Sayan by Irkutsk, the Auxakioi represent the Altai, the Kasia are the Nan-chan, the Ottorokorrhas are the Tsin-ling. The Emoda are more of a problem, since Ptolemy, Pliny and Strabo have contradictory information. To Pliny and Strabo they belong to the Himalayan chain; Ptolemy seems rather to fit them into the line of the Kunlun, perhaps as the Baienkara. No doubt he is at least aware of a ring of mountains round the central plateau. He also knows the main rivers which start from this region, the Hwang-ho, which he calls the Bautisos, and the Yenisei, which he calls the Oichardes. The chief towns Issedon of the Seres, Drozache, Ottorokorrha and Sera (the capital) are uncertain, but there is a general readiness to identify the capital with Sian-fu, Drozache may be Liang-chow, and Issedon Suchow. We are in other words reaching out to China itself.

The Sinae were perhaps the inhabitants of China proper; the name is perhaps derived from the Ts'in dynasty. Knowledge here is later than acquaintance with the Seres, and its transmission is due largely to Ptolemy[13] and to the work of Marcianus which is derivative from him. Ptolemy's knowledge is vague: he thought that the country of the Sinae was linked to the south with Africa so that the Indian Ocean was an internal lake. This arose partly from the Greek myth of Ocean as a river around a land-mass, partly from the Greek habit of identifying any large river of which they heard prima facie with the Nile. Ptolemy was dependent on traders' and travellers' tales, and it is not very fruitful to try and identify all the features to which he alludes, but the great emporium called Cattigara is presumably Canton, and the river Cottiaris correspondingly the Si-Kiang. Ptolemy names eight cities, Bramma, Rhabana, Cattigara, Acadra, Aspithra, Coccoranagra, Sagara and Thinae: this last, the most important and the capital, was not Nanking, which had not yet reached political prominence, but Sha-shi on the Yangtsekiang; others would make it Lo-yang, national not provincial.

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[11] Horace, Od. 1,29,7ff.: *puer quis ex aula capillis / ad cyathum statuetur unctis, / doctus sagittas tendere Sericas / arcu paterno?* . . .

[12] Prop. 4,8,23: *Serica nam taceo vulsi carpenta nepotis* . . .

[13] Ptolemy, Geogr. 8, 27: 'Ασίας Πίναξ ια'. 'Ο ἑνδέκατος πίναξ τῆς 'Ασίας περιέχει τὴν ἐκτὸς Γάγγου 'Ινδικὴν καὶ Σίνας σὺν ταῖς παρακειμέναις νήσοις κτλ.

Probably the best generalization that we can make is that the Seres were the people of the Far East at the end of the land route, the Sinae the people of the Far East at the end of the sea route.

For the Chinese the people of the Mediterranean were generally called Ta-ts'in. The origin of the term is uncertain: it has been supposed by some it means something like 'Great Ts'in' in reference to an empire comparable to China's own; by others that it is the legendary Tarshish. Probably from the late Greek period there was awareness of extensive sovereignty, but no firm knowledge, and the term is applied to the Seleucid kingdom centring on Antioch, the Nabataean traders who came from Petra–Rekem, the Egyptian empire of Alexandria, and later the Roman domain; and there was at no time a clear differentiation between them. The Ta-ts'in are also called Li-kan or Li-kien, which must be an attempt to transliterate Alexandria, and in Byzantine times Fu-lin, which has been supposed by some to be Rome, but is surely simply Polin (i. e. Constantinople).

III. Trade between China and the Roman Empire

The sea-route to India was established by the Ptolemies. At the Egyptian end it depended on the Red Sea ports of Myos Hormos and Berenice, with a land connection across to Coptos on the Nile. There was also developed an important trade with the Nabataean centre of Petra and its port at Aelana on the Gulf of Akaba. Before the monsoons were understood the boats hugged the coast of Arabia to the mouth of the Persian Gulf, and then along east to Barbaricon at the Indus mouth; later they cut across more directly to the same point or to Barygaza on the Nerbudda. This suggests some elementary knowledge of the monsoon, and Hippalus, to whom the discovery is attributed, was perhaps the first sailor to chance his arm this way. At either of these points Chinese goods could be obtained, but they had travelled overland either through central Asia and down through the Hindu Kush, or more directly into the valley of the Brahmaputra.

Roman trade with India began effectively in the time of Augustus, and we know of Chinese silk, and cinnamon and some precious stones which had come from further east than India, but probably through India. Under Tiberius the trade developed, and large numbers of his coins reached India. It caused some embarrassment to the emperor, who set himself to discourage the use of silk, especially by men, and extravagant jewellery[14].

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[14] Tac. Ann. 2,33: *Proximo senatus die multa in luxum civitatis dicta a Q. Haterio consulari, Octavio Frontone praetura functo; decretumque ne vasa auro solida ministrandis cibis fierent, ne vestis serica viros foedaret. . . .*

Under Claudius a freedman of Annius Plocamus was blown across the Indian Ocean to Ceylon, and returned with a deputation wanting to establish trade[15]. Plainly this adventurer did not realize that the monsoon could be used so far south. Plainly too as a result of the contacts he made, the monsoon was mastered, and a regular route was established. He also brought information about trade with the Seres. Conservative interpreters think that there is confusion between the central Asiatic silk-traders and the Chera Tamils; yet Chinese goods could have come to Ceylon via the Brahmaputra route and down the coast.

There is no record of any encounter between Romans and Chinese in Ceylon or South India, but it is clear that the sea-route from Ceylon to China was gradually opened up in the first and second centuries AD. The 'Wei-shu' (102) says: "There is a connection of Ta Ts'in by sea with the principalities of Yi-chou (Yunnan) and Yung-ch'ang (the region of Bhamo)." Ptolemy in Alexandria had talked with traders, both Greek and Indian, who had sailed further east, initially no doubt in search of precious stones from Burma and tortoiseshell from Malaysia, and in the hope of fabled silver and gold. Josephus records a merchant who reached the Irrawaddy delta and the Malay peninsula[16]. One Alexander had actually reached Cattigara, which as we have seen, is probably Canton, though some interpreters opt for Hanoi. A copper coin of Maximinus I (AD 235—8) has been found in Cochin-China. Ptolemy's attempt to link China with Africa induced a belief, hard to eradicate, that the Chinese coast faced west, but there was other evidence from travellers which led Pausanias[17] to describe China as an island, that is, it was approached from the west, but that sea lay to the south and east as well. By the sixth century AD Cosmas knew that after rounding the Malay Peninsula ships for China must strike north with the land to their west.

Land-routes between China and central Asia, Iran and India had long been familiar. The Chinese began to use them extensively for trade only in the last quarter of the second century BC. Routes led from central China through Kashgar to the Tarim basin in Turkestan, and so to Samarkand and Bactria: Alexander's foundation of Heratus was a key point in communication. Chinese armies used this route when they pushed out of Turkestan and overran the Huns. Now they organized five to ten caravans a year, each with a hundred or more people, travelling to Turfan, Ferghana, Samarkand, and even Mesopotamia and the Persian Gulf. One of the more exciting finds in the central section of the route was the remains of a bale of silk carefully stamped with its measurements and valuation.

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[15] Pliny, N.H. 6,24 (84): *Anni Plocami, qui Maris Rubri vectigal a fisco redemerat, libertus circa Arabiam navigans aquilonibus raptus praeter Carmaniam, XV die Hippuros portum eius invectus, hospitali regis clementia sex mensum tempore inbutus adloquio percontandi postea narravit.*

[16] Josephus, Ant. Jud. 8, 6, 4 (164): . . . οἷς ἐκέλευσε (sc. King Solomon) πλεύσαντας μετὰ καὶ τῶν ἰδίων οἰκονόμων εἰς τὴν πάλαι μὲν Σώφειραν νῦν δὲ χρυσῆν γῆν καλουμένην (τῆς Ἰνδικῆς ἐστιν αὕτη) χρυσὸν αὐτῷ κομίσαι. — ibid. 8, 176: κατὰ δὲ τὸν αὐτὸν καιρὸν κομισθέντων ἀπὸ τῆς χρυσῆς καλουμένης γῆς λίθου πολυτελοῦς τῷ βασιλεῖ (sc. to Solomon) καὶ ξύλων πευκίνων, . . .

[17] Pausanias 6,26,8f.; see note 6.

The eastern section of the great route started at Ch'ang An, the capital of the Han dynasty, and reached the Chinese borders at Lanchow. The outlet from China was protected by an extension of the Great Wall. From there it struck out across Chinese Turkestan to Anhsi. At this point the Tarim desert forms an obstacle. Alternative routes passed to the north of this, through Turfan, where Sir AUREL STEIN made his celebrated discoveries, or to the south, through Tun-huang, Niya and Khotan, rejoining at Kashgar (Issedon Scythica); alternative routes, difficult but important, run south to the Indus. This central section of the main route is permeated with Mediterranean artistic influences. Now there is a barrier of a different kind, the Pamirs, and alternative routes again lay through Samarkand or Balkh (Bactra) rejoining at Merv (Antiochia Margiana). Finally the western section passed through northern Iran to Ecbatana and Seleucia-Ctesiphon, up the Euphrates and across to Antioch and the Mediterranean ports. Or for the last stage the route across the Syrian desert might be used. The story of the trade is much affected by the number of middlemen. Kashgaria, for example, in times of Chinese strength has been under the direct rule of China, but at other periods it has been either under the governance of small tribes based on the oases, or subject to the incursions of nomads from the north. Bactria and Sogdiana during the period of the Roman Empire were generally ruled by the Yue-chi under the Kushans or the Kidara; the Parthians and their successors the Persian Sassanids controlled the west-central parts of the route, and even then Osrhoene or Palmyra or Petra might exact their tolls.

The main objects of trade can be identified. From China the primary call was for silk. Tiberius might disapprove[18], but he could not stay the tide. Caligula wore silk[19]. Seneca in Nero's reign disapproved of such revealing fabrics[20]. But even the frugal Vespasian adorned himself with silk for the triumph over the Jews[21], and Quintilian shows that silk was even being woven with other textiles into togas[22]; it was even cut and sewn into gar-lands[23]. Martial mentions it frequently[24]. Silk-dealers were found in main centres of population, Naples and Rome, and even in Tivoli. The origin of the fibre was not understood; it was thought to be combed from trees[25], and only after the opening of the sea-route in AD 166 were Pausanias[26] and Pollux[27] able to give a truer account. Silk did not lose its attractions. The infamous Elagabalus always wore silk, and new clothes each day. The austere Aurelian refused to wear it, a sure sign of what was going on around him. It was said to be worth its weight in gold at this period. By the end of the fourth century Ammianus can say that silk dress, once the extravagance of the aristocracy, has spread to all classes. Among Alaric's demands from Rome in 408 were four thousand silk tunics. In 448 the Byzantine diplomats were presenting Attila's representatives with robes of silk. Not till Justinian's reign was the silk-moth smuggled into the west[28].

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[18] Tac. Ann. 2,33; see note 14.

[19] Suet. Cal. 52,2: *Saepe depictas gemmatasque indutus paenulas, manuleatus et armillatus in publicum processit; aliquando sericatus et cycladatus;* . . . Cassius Dio 59,17,3: ἐπειδή τε ἕτοιμα ἦν, τόν τε θώρακα τὸν 'Αλεξάνδρου, ὥς γε ἔλεγε, καὶ ἐπ' αὐτῷ χλαμύδα σηρικὴν ἁλουργῆ, πολὺ μὲν χρυσίον πολλοὺς δὲ καὶ λίθους 'Ινδικοὺς ἔχουσαν, ἐπενέδυ, . . .

[20] Seneca, De Ben. 7,9,5: *Video sericas vestes, si vestes vocandae sunt, in quibus nihil est, quo defendi aut corpus aut denique pudor possit, quibus sumptis parum liquido nudam se non esse iurabit. Hae ingenti summa ab ignotis etiam ad commercium gentibus accersuntur, ut matronae nostrae ne adulteris quidem plus sui in cubiculo, quam in publico ostendant.* — Seneca, Ep. Mor. 90,20: . . . *Quid, si contigisset illi* (sc. Posidonius) *adire has nostri temporis telas, quibus vestis nihil celatura conficitur, in qua non dico nullum corpori auxilium, sed nullum pudori est?* — cf. Ep. Mor. 114,21.

[21] Josephus, B.J. 7, 5, 4 (126): . . . κἀκεῖνοι (sc. the soldiers of Vespasian) χωρὶς ὅπλων ἦσαν ἐν ἐσθῆσιν σηρικαῖς. . . .

[22] Quintilian 12,10,47: *Sed me hactenus cedentem nemo insequatur ultra; do tempori, ne hirta toga sit, non ut serica, ne intonsum caput, non ut in gradus atque anulos comptum: cum eo*

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quod, si non ad luxuriam ac libidinem referas, eadem speciosiora quoque sint quae honestiora. — cf. 11,1,3.

[23] Pliny, N.H. 21,8 (11): *Et iam tunc coronae deorum honos erant et larum publicorum privatorumque ac sepulchrorum et manium, summaque auctoritas pactili coronae, ut in Saliorum sacris invenimus sollemnes cenas. Transiere deinde ad rosaria, eoque luxuria processit ut non esset gratia nisi mero folio sutilibus, mox petitis ab India aut ultra Indos. lautissimum quippe habetur e nardi folio eas dari aut veste Serica versicolori, unguentis madida. hunc habet novissime exitum luxuria feminarum.*

[24] Martial 3,82,7: *effultus ostro Sericisque pulvillis* — 8,33,16: *tam leve nec bombyx pendulus urget opus* — 8,68,7: *femineum lucet sic per bombycina corpus* — 9,37,3: *nec dentes aliter quam Serica nocte reponas* — 11,8,5: *de Palatinis dominae quod Serica prelis* — 11,27, 9—11: *At mea me libram foliati poscat amica / aut virides gemmas sardonychasve pares, / nec nisi prima velit de Tusco Serica vico* — 11,50,5: *nunc furtiva lucri fieri bombycina possunt* — 12,8,8: *Parthorum proceres ducesque Serum* — 14,24,1: *Splendida ne madidi violent bombycina crines* — cf. Juvenal 6,259: *hae sunt quae tenui sudant in cyclade, quarum / delicias et panniculus bombycinus urit?* — Juvenal 6,403: *quid Seres, quid Thraces agunt, secreta novercae* —.

[25] Verg. Georg. 2,121: *velleraque ut foliis depectant tenuia Seres?* — Pliny, N.H. 6,19,20; see note 5.

[26] Pausanias 6, 26, 7f.: ... ταῦτα τὰ ζῷα τρέφουσιν οἱ Σῆρες οἴκους κατασκευασάμενοι χειμῶνός τε καὶ θέρους ὥρᾳ ἐπιτηδείους· τὸ δὲ ἔργον τῶν ζῴων κλῶσμα εὑρίσκεται λεπτὸν τοῖς ποσὶν αὐτῶν περιειλιγμένον. τρέφουσι δὲ αὐτὰ ἐπὶ μὲν τέσσαρα ἔτη παρέχοντες τροφήν σφισιν ἔλυμον, πέμπτῳ δὲ — οὐ γὰρ πρόσω βιωσόμενα ἴσασι — κάλαμον διδόασιν ἐσθίειν χλωρόν· ἡ δέ ἐστιν ἡδίστη τροφὴ πασῶν τῷ ζῴῳ, καὶ ἐμφορηθὲν τοῦ καλάμου ῥήγνυταί τε ὑπὸ πλησμονῆς καὶ ἀποθανόντος οὕτω τὸ πολὺ τῆς ἀρπεδόνης εὑρίσκουσιν ἔνδον.

[27] Pollux 7, 76: Σκώληκές εἰσιν οἱ βόμβυκες, ἀφ' ὧν τὰ νήματα ἀνύεται, ὥσπερ ὁ ἀράχνης· ἔνιοι δὲ καὶ τοὺς Σῆρας ἀπὸ τοιούτων ἑτέρων ζῴων ἀθροίζειν φασὶ τὰ ὑφάσματα.

[28] Zonaras, Ep. 14, 9, 16—20: 'Εν τοῖς χρόνοις τούτου τοῦ βασιλέως (sc. of Justinian) κατὰ τὸν αὐτὸν συγγραφέα καὶ τὰ τῶν Σηρῶν νήματα, ἡ μέταξα δηλαδή, παρὰ 'Ρωμαίοις γίνεσθαι ἤρξατο. ἤγετο μὲν γὰρ ἐκ Περσῶν ὠνουμένη δι' ἐμπόρων παρὰ 'Ρωμαίους. τὸ τῆς μετάξης χρῆμα οὐκ ᾔδεισαν μέντοι οὔθ' ὅπως γίνοιτο οὔθ' ὅτι νήματα σκωλήκων ἐστί. μοναχοὶ δὲ δύο τινὲς πρὸς τὸ Βυζάντιον ἐξ 'Ινδίας ἀφικόμενοι τὴν ταύτης γένεσιν ἀφηγήσαντο καὶ ὑπισχνοῦντο κομίσαι τῶν σκωλήκων ἐκείνων γόνον. ... τούτους τοίνυν τοὺς μοναχοὺς ὁ βασιλεὺς 'Ιουστινιανὸς δωρεαῖς τε πρὸς τὸ παρὸν καὶ πρὸς τὸ μέλλον λαμπραῖς ὑποσχέσεσι πρὸς τὸ ἔργον ἐπέρρωσεν. οἱ δὲ τά τε τῶν Σηρῶν ᾠὰ μετεκόμισαν ἐς Βυζάντιον καὶ εἰς σκώληκας ταῦτα μετήμειψαν κόπρῳ ἐνθέμενοι καὶ ταύτῃ θερμήναντες καὶ συκαμίνων ἔθρεψαν φύλλοις καὶ μέταξαν εἰργάσαντο δι' αὐτῶν, κἀντεῦθεν τοῦ λοιποῦ τοῖς 'Ρωμαίοις ἐγνώσθη ὅπως ἐργάζοιτο μέταξα.

A second import was hides or furs referred to by Pliny[29] and the author of the 'Periplus of the Erythraean Sea'[30]. These might be Tibetan furs, perhaps of marten, ounce and snow-leopard; they might even be sables from the more distant north.

More important than furs was cinnamon. The term comprises cassia-bark, cinnamon-shoots and cinnamon-leaf, and this last, which they called *malabathrum,* came to India by the Brahmaputra route. The raw leaves fetched sixty denarii a pound in the Mediterranean; the oil, which was used for gastronomic flavouring, incense, medicinal purposes, and as protection against clothes-moths might fetch as much as four hundred denarii. The best cinnamon-bark also came from China, where it is recorded as early as 2700 BC; the variety from Malabar is greatly inferior. Curiously, the Greeks and Romans were very vague about its origin. For a long time the Arabian middlemen succeeded in persuading the Mediterranean peoples that they grew it. Another persistent story derived it from the African side of the Gulf of Aden, which probably means that it was obtainable at trading posts there. There is a general sense that it came from a vast distance[31].

Iron is mentioned[32], and the quality of the iron of the Seres receives high praise. Most interpreters think that this is Indian steel; it may be so, but it need not be, seeing that Pliny in the same passage speaks of hides or furs which seemingly came from much further north, and North China was a source of magnificent cast-iron. Chinese iron has been found in Sumatra, Malaya, Java, the Philippines and Formosa. It is unfortunate that NEEDHAM's great work has not yet reached his treatment of metallurgy. Some other minerals and mineral products which we know were imported into the Roman Empire may have come from as far as China. Corundum, perhaps, which was used both for polishing and as a gemstone in its own right; lapis lazuli[33]; perhaps also jade (though none has, I think, been found).

To those we may add some medicinal plant-products not recorded in Roman times but later imported by the Arabs which may have formed part of a continuing trade; they include camphor, citrus fruit, a species of pea, galangal, and some others, not all of which have been identified. Finally there is rhubarb (*rha ponticum,* the Black Sea *rha,* or *rha barbarum*).

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[29] Pliny, N.H. 34,41 (145): *Ex omnibus autem generibus palma Serico ferro est; Seres hoc cum vestibus suis pellibusque mittunt.* — Pliny, N.H. 37,78 (204): *Rerum autem ipsarum maximum est pretium in mari nascentium margaritis; . . . e terra vero exeuntibus in cocco, lasere, in fronde nardo, Sericis vestibus . . .; in tergore pellibus quas Seres inficiunt, . . .*

[30] Periplus mar. Erythr. 39 MUELLER: . . . Ἀντιφορτίζεται δὲ . . . καὶ Σηρικὰ δέρματα καὶ ὀθόνιον καὶ νῆμα Σηρικὸν καὶ Ἰνδικὸν μέλαν. . . .

[31] Strabo 16,4,14. — Pliny, N.H. 12,42 (85—86).

[32] Pliny, N.H. 34,41 (145); see note 29.

[33] Pliny, N.H. 37,39 (120), which clearly refers to lapis lazuli not to sapphire: *Caeruleae et sappiri, rarumque ut cum purpura. Optimae apud Medos, nusquam tamen perlucidae. Praeterea inutiles scalpturis intervenientibus crystallinis centris. Quae sunt ex iis cyanei coloris mares existimantur.*

This came by a route all its own via the Aorsi north of the Caspian; why is anyone's guess; perhaps Roman traders happened to find it there, and the Aorsi did not disillusion them by revealing its source. It is curious among plant-products that no classical writer mentions tea.

What then did the Romans export? The absence of Roman coins in China by comparison with India is puzzling, but there may have been a flow of bullion; the only coins to appear are a small hoard of sixteen, from Tiberius to Aurelianus, near Si-an. But we must look for other goods.

Slaves certainly. As early as about 100 BC the Parthians were sending the Chinese 'Syrian' jugglers by the land-route; in AD 120 Syrian jugglers and musicians were sent along the sea-route. It is hardly likely that this constituted the complete traffic in persons. There may have been other animals too, though they would form a less easy object of distant trade whether by land or sea. Red coral from the Mediterranean and black coral from the Red Sea were certainly important; so was purple from the coast of Palestine, and pearls from the Red Sea. Amber seems to have reached China via the Roman Empire. Henna was brought also from 'Syria' during the period of the sea-trade, and the fragrant storax was another object of export, though it tended to lose its fragrance in transit. There will have been other vegetable products apart from the vine and alfalfa. Between the third and seventh centuries AD there reached China for domestication: chive, coriander, cucumber, fig, safflower, sesame, pomegranate and walnut. Five of these have names containing *hu*, indicating that they came via Persia and central Asia.

But beyond these primary products it was the craftsmanship of the Mediterranean which was in demand. Glass was a luxury export: a glass vase of Alexandrian workmanship (now in Toronto) was found in the province of Honan, and the Wei Emperor Tsaou-Tsaou received a gift of fine Mediterranean glass. The Chinese thought the Ta Ts'in unequalled as glass-manufacturers and their imports included glass vessels, mirrors, imitation jewellery and crude glass. Glass vessels of high quality from about the fourth century have been found in Honan and Korea.

Workmanship in jewellery and precious stones was another luxury export: a Han dragon, now in the Freer gallery at Washington, has two glass pearls from Alexandria as eyes. But more basic than these were textiles. Asbestos-cloth ("cloth which can be cleaned by fire") came from Syria and Egypt, though it was perhaps known in China before. Embroidered cotton fabrics from Syria were highly valued by the Chinese. Fragments of a woollen cloth from Syria dating from the first century BC have been found in Mongolia. Ma Tuan-lin says that the countries "west of the sea" produced splendidly coloured rugs of all kinds. The 'Hou-han-shu' also speaks of gold-thread embroideries, "gold-coloured cloth" and a superior cloth made of "water-sheep-down" (perhaps *byssus*). But the most amusing of these exports of craftsmanship was silk: The Chinese exported silk in the form of a rather heavy material. The superior craftsmen of Syria unwove it and then rewove it into a much finer transparent gauze[34], in which form it was re-exported to China. The Parthian middlemen actually persuaded the Chinese that the Romans possessed silkworms of a higher quality, and that they had no monopoly (and so could not keep prices up) and should buy this superior product. The 'Hou-han-shu' and many later writers proclaim the originality of Roman silk. The 'Wei-lio' and Ma Tuan-lin knew that it was Chinese exported cloth rewoven and re-exported, but the old myth died hard.

The 'Wei-lio', which dates to about AD 400 and is based on third-century records, has a full list of the products of Ta-ts'in, which must be largely based on trading experience. Unfortunately about half of the list of sixty-odd items defy identification; they are no doubt Chinese essays at foreign words, but the words do not seem to belong to Greek or Latin, and must be derived from one of the central Asiatic tongues. The list begins with minerals: gold, silver, copper, iron, lead and tin. Then follow animals and animal products, including tortoises and tortoiseshell, white horses and red horsehair (though these would more likely come from further east), black bears, and large conches, together with some unidentified. Next come precious stones, including cornelians, pearls, amber, corals, rock crystal, glass of various colours, and 'jade' of various colours. Then a long list of textiles. Finally vegetable products, mainly aromatic. Plainly at the end of the trading route the Chinese could not always distinguish what came from Rome and what did not, but there is an adequate account of Mediterraean exports.

We must however remember that much of the trade was carried on through middlemen, and we would not necessarily expect to find Roman goods in China. Roman coins might buy Chinese silk from India, which might barter goods of her own in exchange for the silk.

IV. Political and other Contacts

Under the emperor Wu Ti (141—87 BC) pressure from the Hsiung Nu (Huns) led to a need for contact with the west, partly to grip the attackers in a pincer-movement between allies, partly in order to improve the Chinese cavalry by importing "blood-sweating" horses from Iran. A general named Chang Ch'ien was sent on an embassy, and made direct contact with the relics of Hellenistic culture in Ferghana. He brought back not merely horses, but alfalfa to provide pasture, and vines from Ferghana with the word *botrus*, *p'u-t'ao*: curiously enough the Chinese did not develop wine from it for several centuries. He also brought a Turkish wife. He left a report; the distances are overestimated but it is otherwise factual. The people of Ta Yüan (Ferghana) are a settled agricultural people, living in houses in cities; they have superb horses. Ta Hsia (Bactria) is similar, and trading with Shên Tu (India). Both peoples are tributary to An Hsi (Parthia). He was also aware of the An-ts'ai (the Aorsi north of the Caspian), T'iaochih (Mesopotamia) and Li-kan or Li-kien. This last, as we have seen, is probably Alexandria, though Chang Ch'ien is not aware of Egypt so much as the Greek-speaking merchant world in general.

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[34] Pliny, N.H. 6,20 (54); see note 5.

Wu Ti in consequence decided to open up permanent contact with the countries of the west. Unaware of the importance or size of India he tried first to establish a route to Bactria via India, but this was unsuccessful. Then he turned his attention to the north-west, and by 121 BC had forced the Hsiung Nu away to the north and extended his dominion to Lopnor. Diplomatic relations were widely established, and some of the embassies were eight or nine years in the travelling and negotiations. None reached the Mediterranean; this is explicitly stated in the later Chinese annals, and the negative evidence at the Greek end confirms this. But the embassy to Parthia was met by a cavalry escort twenty thousand in number, and among the gifts brought to Chinese by a reciprocal Parthian embassy were acrobatic slaves and ostrich-eggs. Wu Ti ran into difficulty with Ferghana at the end of the century, and lost an army in the process, but succeeded in re-establishing his position. One small pendant to this Chinese penetration is the fact that the last Greek ruler in India, Hermaeus, was a tributary of the Chinese. It has been adequately shown that the sea trade was first developed from the old Red Sea port of Eziongeber, with its emporium at Rekem-Petra. These Syrian or Arabian traders using Phoenician navigational skill, penetrated on a few occasions as far as China. The first record of the Ta-ts'in is in 140 BC when they arrived, perhaps at Hoppu, with a cargo of coral. Tchao-t'o, the ruler of Nan-yueh, sent nearly five hundred branches to the Emperor Wu, who used them as decoration for a pool in his capital city. In 127 BC we have a further record of the Ta-ts'in bringing to Nan-yueh nard from Sumatra and henna from India. They were back again in 109—108, and again at some point in the reign of Han Suan ti (73—49 BC). At the other end, Chinese silk was known in Egypt by the first century BC, though not available in any quantity.

Clearly by the end of the Republic silk was well-known at Rome. Caesar had an awning of it; Cleopatra's body was visible through the Sidonian re-woven fabric[35]. There was a silk market in the Vicus Tuscus, and the Augustan poets, Vergil, Horace, Propertius and Ovid are all familiar with it[36]. One curious episode is recorded by Florus alone[37]. This is a visit by some Seres to Augustus's court. Clearly it was not an official embassy; it may have been an enterprising merchant; or a piece of wishful thinking from the adulatory historian.

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[35] Lucan 10,141: *Candida sidonio perlucent pectora filo, / Quod Nilotis acus conpressum pectine Serum / solvit ...*

[36] Verg. Georg. 2,121; see note 25. — Horace, Od. 1,12,56: *Seras et Indos* — 3,29,27: *quid Seres et regnata Cyro* — 4,15,23: *non Seres infidique Persae* — Epod. 8,15—16: *quid quod libelli Stoici inter Sericos / iacere pulvillos amant?* — Propertius 1,14,22: *Quid relevant variis serica texilibus?* — 2,3,15: *Nec si qua Arabio lucet bombyce puella* — 4,8,23; see note 12. — Ovid, Am. 1,14,5—6: *Quid, quod erant tenues, et quos ornare timeres? / Vela colorati qualia Seres habent?*

[37] Florus 2,34,62: *Nam et Scythae misere legatos et Sarmatae amicitiam petentes. Seres etiam habitantesque sub ipso sole Indi, cum gemmis et margaritis elephantos quoque inter munera*

At the end of the first century AD the great general Pan Ch'ao, after a period of decline, reasserted Chinese power in Central Asia. In AD 97 he sent an ambassador named Kan Ying to make contact with the Ta Ts'in. The 'Hou-han-shu' gives the following account (88): "General Pan Ch'ao sent Kan Ying as an envoy to Ta Ts'in, and he arrived in T'iao-chih (Mesopotamia) on the coast of the great sea. When he was about to take his passage across the great sea, the sailors of the western border of An-hsi (Parthia) told him that the sea was very vast, that it could be traversed within three months, but with unfavourable winds might take two years, . . . that there was something in the sea which made a man long for home, and that many men lost their lives on it. When he heard this, Ying did not go any farther." Evidently the Parthians were jealous of their status as middlemen; they discouraged him from the sea-route and did not even tell him of the land-route. The Chinese realized this. The 'Hou-han-shu' declares: "The kings of Ta Ts'in always desired to send embassies to China, but the Parthians wished to carry on trade with Ta Ts'in in Chinese silks and therefore cut them off from contact." (It should be said that the Persian Gulf suits the evidence best as the terminus of Kan Ying's expedition, though older European scholars thought he reached the Mediterranean, and some Chinese scholars think that the sea which deterred him was the Black Sea.) However the 'Hou-han-shu' and the 'Wei-shu' (102) give accounts of sea-contacts between Mesopotamia and the Roman Empire. When the Chinese eventually discovered the land-route, the 'Wei-lio' says: "Formerly only the sea-routes were heard of; the overland route was not known to exist." Kan Ying said that the empire contained four hundred cities, surrounded with stone defences, some with a circuit of more than ten miles; there are scores of subject-provinces. There are postal stations and milestones. The people practise agriculture and rear silkworms (we have already seen the explanation of this); among the trees are pine and cypress; cereals are cheap. They cut their hair, wear embroidered clothing, drive in small carriages with canopies, and proceed to the accompaniment of drums and flags. They use glass or rock-crystal (the two are confused) for table-ware and also for columns. (This is no doubt an exaggeration, but columns may have been sheathed or decorated with glass.) The rulers are not permanent, and are appointed on merit and liable to be deposed in time of disaster. (This was just the time when "the adoption of the best successor" was coming in: there was indeed deposition, but the victim was decidedly not willing.) The inhabitants are tall and well-proportioned — like the Chinese. Kan Ying is aware of Roman judicial procedures, and has quite a good account of the economic resources as they

trahentes, nihil magis quam longinquitatem viae inputabant — quadriennium inpleverant; et iam ipse hominum color ab alio venire caelo fatebatur.

were known in Parthia. There is gold and silver coinage, and the economy is based on a well-filled treasury; they trade with An-Hsi (Parthia) and T'ien-chu (India) and have a reputation for fair dealing. It is not clear that Kan Ying knows about Rome, and the city he describes with five "palaces" may be Antioch or Alexandria. Kan Ying's report stayed in the royal archives, with additions when new information became available, and the 'Chiu-shu' in the seventh century adds little; indeed the account of Constantinople in the 'Chiu-t'ang-shu' in the tenth century incorporates some of the material, seemingly unaware that there has been a change of capital.

The Romans were indeed anxious to secure more effective control of the silk trade, and this must have been one factor in Trajan's policy of reducing Petra and advancing against Parthia. But Trajan died, Hadrian withdrew, and, after Pan Ch'ao, Chinese power declined. It was perhaps in this situation that a Syrian merchant named Maes Titianus sent his agents far along the great silk-route, as far as the Stone Tower (Tashkurgan in Sarikol), but equally clearly not into China proper. Maes's records were used by Marinus of Tyre, and so passed into Ptolemy's geography[38]. Why the Parthians uniquely let these agents through at this point remains a historical mystery.

In AD 166 we have the first record of Romans reaching China. The war with Parthia had begun in 162 and cut the inland silk trade. It was natural that the Roman business-men should seek to make contact in other ways. Chinese sources treat this as an official delegation from the Emperor An-tun (i. e. Marcus Aurelius Antoninus), but it may have been a piece of private enterprise pretending to official status. Certainly the gifts offered (which the Chinese sources naturally treat as tribute), ivory and rhinoceros horns and tortoiseshell, could all have been procured locally on arrival, or during the voyage east from India. It should perhaps be added that they did not bring information about Ptolemy's 'Almagest': this statement of some authorities arises from a misunderstanding. The Roman enterprise is remarkable. The Liang-shu (54) says: "Merchants of Ta Ts'in often visit Fu-nan (Siam), Jih-nan (Annam) and Chiao-chih (Tong-King), but few from those countries have been to Ta-Ts'in."

It seems likely from the Chinese annals that this was the beginning of a continuous process of direct trade by sea, with Canton as the port of entry. The records speak generally and only occasionally do they give details. For example in AD 226 a Roman merchant named Ts'in Lun (perhaps just Romanus) came to the court of the Emperor Wu at Nanking. He was given twenty Negrito-Pygmies to take back with him, but the plan, as things turned out, came to nothing. Again in AD 284 an important Roman business-delegation arrived with thirty thousand rolls of thin aghalwood. But the contacts will have remained mainly indirect, and it is significant that no hoards of Roman coins, comparable to those in India, have been discovered in China. There is one possible record of Chinese merchants reaching the Roman Empire. Lucian lists peoples who come to Syria with precious stones[39]. They include Syrians, which seems implausible. An easy emendation would turn it to Seres: but we cannot build anything on this.

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[38] Ptolemy, Geogr. 1, 11, 4—8; see note 4. — 1, 12, 2—10 (διόρθωσις ἀπὸ τῶν ὁδοιποριῶν τοῦ μήκους τῆς ἐγνωσμένης γῆς). — 6, 16, 1—8 (Σηρικῆς θέσις). — 6. 21, 1 (Γεδρωσίας θέσις).

This is the last record we have of merchants from the Mediterranean reaching Chinese waters. But at the same time we begin to have records, non-existent before, of penetration westward by Chinese ships. By the end of the third century AD they were already bringing their own cinnamon bark by sea to the Persian Gulf. The product was called Chinese bark (*Dar Chini*) by the Persians; the trade lasted till the sixth century.

At the Roman end some knowledge of China penetrated in the third and fourth centuries, though by what route it is hard to say. Celsus in his attack on Christianity at the end of the second century, and Origen in his rebuttal[40] made something of the atheism of the Seres. This is presumably an account of Confucian scepticism: it is not hard to link it with the contact of 166. The Syrian Bardesanes[41] has an account of the Seres in the Far East; he admires the Chinese reputation for law, and the prohibition of murder, prostitution, robbery and image-worship, and the fact that the power of the laws is stronger than the planetary powers of Mars and Venus. The account is vague: it might have come by sea or land. The follower who wrote 'The Book of the Laws of the Countries' echoes the Chinese conquest of astrological forces, but is aware that none the less there are rich and poor, rulers and subjects, diseased and healthy among them. Another interesting piece of information factually based, comes from Gregory of Nazianzus's brother Caesarius[42]. This too echoes Bardesanes in all respects but one: Caesarius knows that what prevails in China is custom rather than law. In general there is the usual tendency to idealize remote peoples.

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[39] Lucian, D. Syr. 32. The reference to Syrians depends on one secondary authority, referring seemingly to a MS to which I do not have access. M. D. MACLEOD, the editor of Lucian, has done me the kindness to check the principal MSS and assures me that they do not contain such a reading.

[40] Origen, C. Cels. 7, 62—64, cf. 62: . . . Σῆρες οἱ ἄθεοι . . . — 63: Καὶ πρὸς ταῦτα δὲ λεκτέον ὅτι, εἴπερ Σκύθαι καὶ Λιβύων οἱ Νομάδες καὶ Σῆρες, οὓς φησιν ἀθέους εἶναι ὁ Κέλσος, καὶ ἄλλα ἔθνη δυσαγέστατα καὶ ἀνομώτατα ἀλλὰ καὶ Πέρσαι οὐκ ἀνέχονται νεὼς ὁρῶντες καὶ βωμοὺς καὶ ἀγάλματα, οὐ παρὰ τοῦτο ἴσον ἐστὶ τὸ μὴ ἀνέχεσθαι τούτων ἐκείνους τῷ καὶ ἡμᾶς μὴ ἀνέχεσθαι αὐτῶν. . . .

[41] Eusebius, P.E. 6, 10, 12f.: νόμος ἐστὶ παρὰ Σήραις μηδένα φονεύειν μήτε πορνεύειν μήτε κλέπτειν μήτε ξόανα προσκυνεῖν, καὶ ἐν ἐκείνῃ τῇ μεγίστῃ χώρᾳ οὐ ναὸν ἔστιν ἰδεῖν, οὐ γυναῖκα πορνικήν, οὐ μοιχαλίδα ὀνομαζομένην, οὐ κλέπτην ἑλκόμενον ἐπὶ δίκην, οὐκ ἀνδροφόνον, οὐ πεφονευμένον. οὐδενὸς γὰρ τὸ αὐτεξούσιον ἠνάγκασεν ὁ τοῦ πυριλαμπέος Ἄρεος ἀστὴρ μεσουρανῶν ἄνδρα σιδήρῳ ἀνελεῖν, οὐ Κύπρις σὺν Ἄρει τυχοῦσα ἀλλοτρίᾳ γυναικὶ μιγῆναί τινα παρ' ἐκείνοις, πάντως πάσῃ ἡμέρᾳ μεσουρανοῦντος τοῦ Ἄρεος καὶ πάσῃ ὥρᾳ καὶ ἡμέρᾳ γεννωμένων τῶν Σηρῶν.

[42] Caesarius 2, 109: . . . Νόμος γὰρ ἀνόμοις τὰ πάτρια δοκεῖ· ὧν πρῶτοι Σῆρες, οἱ τὸ ἄκρον τῆς χέρσου οἰκοῦντες, νόμον ἔχοντες τὸ πατρῷον ἔθος, μὴ ἑταιρίζεσθαι, μηδὲ συλᾶν, μὴ μοιχᾶσθαι, μὴ ξοάνοις προσκυνεῖν, ἢ ποτνιᾶσθαι δαίμοσι, μηδ' ὅλως ἐν αὐτοῖς ὑπάρχειν εἴδωλον, ἢ ἑταίραν ἢ μοιχαλίδα, οὐ συλήτην, οὐ φονέα, οὐ λωποδύτην· καὶ ὅμως οὐδενὸς τὸ αὐτεξούσιον ἠνάγκασεν ὁ τοῦ κατὰ σὲ πυριλαμποῦς Ἄρεως ἀστήρ, οὐδὲ ἐβιάσατό

At the Chinese end the 'Wei-lio', which, as we have seen, though dating from about AD 400, incorporates material from AD 220–264, has a rather fuller account of Ta-ts'in than the 'Hou-han-shu', and shows the information received from these fresh contacts, as well as from more adequate knowledge of Parthia. There is knowledge of the sea-route from the Persian Gulf to the Red Sea, which includes Kan Ying's report but goes beyond it. At the end of the route there is a river (the Nile) and the city of Ch'ih-san (Alexandria). Comparison with Ma Tuan-lin confirms the view that the 'Wei-lio' regards Antioch (An-tu) as the capital of Ta-ts'in; it lies on the banks of a "river-sea". In addition to the list of export products the 'Wei-lio' records something of the flora (pine, cypress, euphorbia, bamboos, rushes, poplars, willows and some other), and domestic animals (horse, donkey, mule, camel — and mulberry silkworm!); the Chinese remain impressed with the Syrian acrobats and jugglers. There is some elaboration of tributary states and subject-provinces but only the east is known. Those mentioned are Tse-san (from the position perhaps Alexandria-on-the-Tigris), Lu-fen (Osrhoene: the flying bridge is Seleucus's crossing of the Euphrates at Zeugma), Ch'ieh-lan (perhaps Palmyra), Hsien-tu (inadequately described, perhaps Damascus), Ssu-fu (perhaps Emesa), and Yü-lo (not to be identified). Beyond the eastern Mediterranean all is fairyland. "In the west of Ta-ts'in there is the water of the sea; west of this is the water of the river, west of the river there is a large range of hills extending from north to south; west of this there is the Ch'ih-shui (Red River); west of the Ch'ih-shui there is the White Jade Hill; on the White Jade Hill there is the Hsi-wang-mu; west of the Hsi-wang-mu there is the rectified Liu-sha (Flying Sands); west of the Liu-sha are the four countries of Ta-hsia, Chien-sha, Shu-yu and Yüeh-chih. West of these there is the Hei-shui (Black River) which is reported to be the western terminus of the world." Some of these are old Chinese myths pushed as far west as possible, but there seems to be some vague awareness of waterways (Rhine or Rhone? Or Adriatic as a river?), mountains (Alps or Appennines?), marble quarries, and beyond all the Atlantic.

After more peaceable relations were re-established the Romans and Persians for a period organized the land-trade to their mutual satisfaction, with trading-centres at Callinicum, Nisibis and Artaxata. Here the *commerciarii* purchased raw silk from Persian traders. Some of it then passed to the state, other to private manufacturers.

At the beginning of the sixth century Cosmas Indicopleustes in his strange amalgam of fact and fantasy called 'Universal Christian Topography'

τινα αὐτῶν φασγάνῳ τὸν πέλας ἀναιρεῖν, ἢ λίθῳ πατάξαι· οὐκ Ἀφροδίτη σὺν Ἄρει ἔπεισεν αὐτοὺς ἐπιλυττῆσαι τῇ γυναικὶ τοῦ γείτονος· πανημέριον μεσουρανοῦντος τοῦ Ἄρεως, καὶ ὅμως ἰσχυρότερος τῆς ἀνάγκης τῶν ἄστρων παρὰ Σηρσὶν ὁ πάτριος νόμος.

indicates that the silk-trade came mainly overland, but that there was still an operative sea-route via Ceylon. He calls China Tzinista and knows approximately of its distance and geographical location. "Further than Tzinista there is neither navigation nor inhabited land." One very interesting example of cultural permeation is a story told by Epiphanius of Constantia in the fourth century of an inaccessible valley of diamonds, which are obtained by throwing down flesh and encouraging birds to pick up the flesh and diamonds adhering to it. The same story appears in China in the 'Liang su kungki', with a date early in the sixth century; it must have travelled along the silk route.

In 540 war broke out. Justinian put an upper limit of fifteen gold *solidi* for a pound of silk, but the Persians refused to sell. In the deadlock the private firms were helpless, and silk became a state monopoly. This however did not bring the silk. There are two versions of what happened next. According to Procopius[43] monks from India smuggled in silk-moth eggs and hatched them, putting the silkworms on mulberry leaves; it will be noticed that if this version is right the monks must have travelled to China in the first place. According to Theophanes[44] a Persian brought the eggs in a bamboo. The discrepancies can be resolved with sufficient ingenuity and invention. The result is not in doubt. The Chinese and Persian control of the industry was broken. Henceforth the Romans were their own suppliers. The state monopoly remained, and export of the finished fabric was rigidly controlled.

Still the T'ang period (AD 621—907) was a period of extensive traffic between China and the Mediterranean. Not many individuals went the whole length, but cultural influences did. In the Royal Ontario Museum in Canada is a T'ang ewer with characteristic Hellenistic decoration, including a dancer. An earthenware ewer in the Ashmolean is derived in shape and decoration from a Sassanian original. A remarkable amphora in a private collection in Tokyo is purely Greek in shape, though the glaze is Chinese and the motif of the dragons on the handles is Siberian. Even more striking is a statuette of unglazed grey pottery in the Victoria and Albert

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[43] Procopius, Bell. Goth. 4, 17: Ὑπὸ τοῦτον τὸν χρόνον τῶν τινὲς μοναχῶν ἐξ Ἰνδῶν ἥκοντες, γνόντες τε ὡς Ἰουστινιανῷ βασιλεῖ διὰ σπουδῆς εἴη μηκέτι πρὸς Περσῶν τὴν μέταξαν ὠνεῖσθαι Ῥωμαίους, ἐς βασιλέα γενόμενοι οὕτω δὴ τὰ ἀμφὶ τῇ μετάξῃ διοικήσεσθαι ὡμολόγουν, ὡς μηκέτι Ῥωμαῖοι ἐκ Περσῶν τῶν σφίσι πολεμίων ἢ ἄλλου του ἔθνους τὸ ἐμπόλημα τοῦτο ποιήσωνται· χρόνου γὰρ κατατρῖψαι μῆκος ἐν χώρᾳ ὑπὲρ Ἰνδῶν ἔθνη τὰ πολλὰ οὔσῃ, ἥπερ Σηρίνδα ὀνομάζεται, ταύτῃ τε ἐς τὸ ἀκριβὲς ἐκμεμαθηκέναι ὁποίᾳ ποτὲ μηχανῇ γίνεσθαι τὴν μέταξαν ἐν γῇ τῇ Ῥωμαίων δυνατὰ εἴη. . . . οἱ δὲ γενόμενοι ἐν Σηρίνδῃ αὖθις τά τε ᾠὰ μετήνεγκαν ἐς Βυζάντιον, ἐς σκώληκάς τε αὐτὰ τρόπῳ ᾧπερ ἐρρήθη μεταπεφυκέναι διαπραξάμενοι τρέφουσί τε συκαμίνου φύλλοις, καὶ ἀπ' αὐτοῦ γίνεσθαι μέταξαν τὸ λοιπὸν κατεστήσαντο ἐν Ῥωμαίων τῇ γῇ.

[44] Theophanes apud Mueller FHG 4, 270, 3: Ὅτι τὴν τῶν σκωλήκων γένεσιν ἀνὴρ Πέρσης βασιλεύοντος Ἰουστινιανοῦ ἐν Βυζαντίῳ ὑπέδειξεν, οὔπω πρότερον ἐγνωσμένην Ῥωμαίοις. Οὗτος δὲ ἐκ Σηρῶν ὁρμηθεὶς ὁ Πέρσης, τὸ σπέρμα τῶν σκωλήκων ἐν νάρθηκι λαβὼν μέχρι Βυζαντίου διεσώσατο, καὶ τοῦ ἔαρος ἀρξαμένου ἐπὶ τὴν τροφὴν τῶν συκαμίνων φύλλων ἐπαφῆκε τὰ σπέρματα· τὰ δὲ τραφέντα τοῖς φύλλοις ἐπτεροφύησέ τε καὶ τἆλλα εἰργάσατο.

Museum, which clearly goes back to some Hellenistic original. Pilgrim flasks of the same period (there is one in the Victoria and Albert) are Syrian in shape and in the motif of dancer and flute player. Similarly Chinese porcelain has been found in Mesopotamia and affected the design of cases in the eastern Empire. Cultural permeations are strange and unpredictable; we do not know at what point the Greek word *diphthera* passed into the languages of central Asia.

A few later contacts are worth mentioning. Theophylact Simocatta, an Egyptian Greek, in the early seventh century mentions China under the name of Taugas (the Arabic and Persian Tamghaj) and Ch'ang-an as Khubdan (Turkish Khumdan); he is also aware of the Yangtse-kiang and of the recent dynastic struggle between the Sui and the Ch'en. He describes their hereditary royal succession, their paganism, their justice, their commercial prosperity, and their production of silk. Their inhabitants are a kind of white Indian.

In Chinese sources we have references to a place called Fu-lin. Later texts identify this with Ta Ts'in and it is presumably Constantinople. There is a particularly good account of Byzantium, perhaps from the seventh century, in the Chinese records, which includes the Golden Gate and the mechanical device, beloved by the Byzantine court: "Fu-lin is the ancient Ta Ts'in. It is situated on the Western Sea. To the southeast it borders Persia, to the northeast is the territory of the western Turks. The land is very populous and there are many towns. The walls of the capital are of dressed stone, and more than ten thousand families live in the city. There is a gate two hundred feet high, entirely covered with bronze. In the imperial palace there is a human figure of gold which marks the hours by striking bells. The buildings are decorated with glass and crystal, gold, ivory and rare woods. The roofs are made of cement, and are flat. In the heat of summer machines worked by water power carry up water to the roof, which is used to refresh the air by falling in showers in front of the windows. Twelve ministers assist the King in government. When the King leaves his palace he is attended by a man carrying a bag, into which any person is free to drop petitions. The men wear their hair cut short and are clothed in embroidered robes which leave the right arm bare. The people of Fu-lin value money, and they are fond of wine and sweets. On every seventh day no work is done. From this country come byssus, coral, asbestos, and many other curious products. They have very skilful conjurors who can spit fire from their mouths, pour water out of their hands, and drop pearls from their feet. Also they have skilful physicians who cure certain diseases by extracting worms from the head." This last item is of considerable interest. It refers to the Hippocratic use of trepanning for blindness: the worms are an invention of the Chinese writer. Other information about Fu-lin comes from the 'Yu-yang-tsa-tsu', in the chapter on trees. Some of this is not to be identified, but of those associated with Fu-lin we can be certain of the olive, fig, myrtle, galbanum, nard and jasmine.

The Emperor Yang Ti (605—617) tried unsuccessfully to establish negotiations with Fu-lin. The collapse of the Sassanids made this possible. Nestorian Christianity arrived in 635 and was authorized in 638. In 643 an embassy with rich gifts including glass arrived from King Po-to-li of Fu-lin. We have no record of this from the Byzantine side; some have suggested that Po-to-li is Patriarch. May it not rather have been Patrician? The 'Ch'iu-t'ang-shu', which also records that the Ta Shih (Arabs) under their general Mo-i (Moawiya) besieged the capital of Fu-lin (Constantinople), (this took place in 671—678), speaks of further embassies in 667 (which brought theriaca, a kind of early antibiotic), 711, 719 (sent by the chief minister, presumably Leo the Isaurian before he reached the throne, with gifts of lions and sheep with spiral horns) and 742 (the last comprising "priests of great virtue"). Two years later there arrived a priest of the Ta Ts'in named Kiho also of great virtue who "observing the stars and the sun, came to the court to present his respects to the august emperor". Presumably this last is a Nestorian missionary. An inscription of 781 describes the "brilliant teaching" of the Ta Ts'in, whose sage was born of a virgin. There are three later embassies in the Chinese annals, in 1081 and 1091. The former came from Mi-li-i-ling-kai-sa. It is not quite clear whether this is the emperor Michael, the pretender Melissenus, or the Seljuk ruler Malik-i-Rûm, but the continuance of the Roman title is fascinating. Finally in 1371 there came an envoy from Fu-lin named Kumin Nikulun. We do not know this Nicholas Comnenus. In another version he is a merchant who is sent back with an official letter.

V. A Roman City in Ancient China

We must next advert to a particularly interesting exploration by Homer H. Dubs. In the cadastral register of Chinese cities and counties for AD 5 there appears a city and county named Li-kien. Li-kien is one of the Chinese names for the Roman Empire: as the 'Hou-han-shu' puts it. "The country of Ta-ts'in is also called Li-kien": this, as we have seen, is derived from Alexandria, the great trading-mart which naturally signified the Mediterranean world to the Chinese. The only other places in the register with foreign names are Kucha and Wen-siu, and we know that these were named after immigrants who inhabited them. The logical conclusion would be that Li-kien was populated by immigrants from the Roman Empire. Furthermore Wang Mang who achieved power by usurpation in AD 9, a Confucian who "rectified names" gave the city the name Jie-lu, which Dubs interprets as "Caitiffs (captured) in storming (a city)" or as "Caitiffs raised up". In other words the city and county of Li-kien were on the face of it a settlement of Roman prisoners-of-war.

Dubs now follows out a train of events which would explain this. In 54 BC Crassus limped back from Carrhae leaving twenty thousand dead and ten thousand prisoners. The accounts of the battle make clear that the Romans protected themselves from Parthian arrows by a new application of the principle of interlocking shields, the formation in other circumstances known as the *testudo*[45]. The ten thousand prisoners were moved to Margiana and put on frontier duty[46]. They were fifteen hundred and more miles from Roman territory, and their chance of escape was non-existent.

The Hsiung-nu, who dominated Mongolia and harried the eastern borders of China, were disrupted at this period by rival aspirants to power. One claimant Jzh-jzh had defeated his immediate rival Hu-han-sie, and the latter had asked for help from the Chinese. There were various jockeyings for power, and Jzh-jzh tried to establish himself in the north and west. His murder of Chinese envoys ended any hope he might have had of support from there. He allied himself with Sogdiana against the Wu-Sun, a Cossack tribe of the steppes. Then he broke with them too, and began to establish an independent empire in Central Asia. This endangered the silk-trade and Chinese interests. In 36 BC Gan Yen-shou, urged on by his ambitious subordinate Ch'en T'ang, marched westward. They reached Jzh-jzh's capital and sacked it. The fighting is vividly conveyed in 'The History of the Former Han Dynasty', and it describes "more than a hundred" infantry drilling "in a fishscale formation". The term is unique in Chinese literature. It plainly indicates professional soldiers, not nomad hordes. They sound like Greeks or Romans. Bactria had fallen nearly a century before, and the small round Macedonian shields would not interlock in a fishscale formation. But Carrhae was only eighteen years ago, and the arrival of Roman troops in Margiana somewhat less, and Margiana less than five hundred miles away. It sounds as if Jzh-jzh has secured Roman mercenaries from Margiana. Further, there was a double palisade of wood outside the city wall. This certainly was not the practice of the Huns or indeed the Greeks, but it would be automatic legionary discipline.

The official report claims one hundred and forty five captives. The infantry drilling were "more than a hundred". It looks as if they held their formation and were accepted on honourable terms by the Chinese. Parthia was now closed to them; they had, for the Parthians, deserted their posts. They took the next step, and, from guarding the east frontier of Parthia, moved further east and guarded the west frontier of China. One further piece of circumstantial evidence is that scenes from the campaign were introduced in painting: this was not Chinese practice but was found in the Roman *triumphus*, and it is possible (though Needham doubts it) that the Chinese generals may have got the idea from the Romans on the march back.

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[45] Plut. Crass. 25, 9: ἰδόντες δὲ θῖνα βουνώδη πλησίον ἐχώρουν ἐπ' αὐτήν, καὶ τοὺς μὲν ἵππους ἐν μέσῳ κατέδησαν, ἔξωθεν δὲ τοῖς θυρεοῖς συγκλείσαντες ᾤοντο ῥᾷον ἀμυνεῖσθαι τοὺς βαρβάρους.

[46] Pliny, N.H. 6,18 (47): *In hanc Orodes Romanos Crassiana clade captos deduxit.*

Of the constitution of Li-kien we know nothing: it lasted until the fifth century AD as a separate county, and the city was still in being in the seventh century, when Yen Shzh-gu noted that the local dialect preserved the sound 'x' (as in 'Alexandria').

VI. Historical Correlations?

Finally we must mention a remarkable book by F. Y. TEGGART, Rome and China. TEGGART's book is a study in historical correlation. He takes the period from 58 BC to AD 107 for detailed study, and within that period traces correlations between disturbances in the western regions of the Chinese and on the eastern and northern frontiers of the Roman Empire. "Moreover, the correspondence in events was discovered to be so precise that, whereas wars in the Roman East were followed uniformly and always by outbreaks on the lower Danube and the Rhine, wars in the eastern T'ien Shan were followed uniformly and always by outbreaks on the Danube between Vienna and Budapest." (p. vii) TEGGART offers as an instance the retirement of Pan Ch'ao in AD 102; the subsequent disturbances which forced the Chinese to withdraw from the 'Western Regions' in 105—107; the overthrow of Paconis of Parthia in 105—106; the Roman annexation of Petra and Arabia in 105—106, and of Dacia in 106—107; the Roman withdrawal from Scotland in 106—108; the occupation of Guchen and Turfan by the Hsiung-nu in 105; the pressure from outside on Pannonia in 107. This is only one example out of many. In his first chapter TEGGART examines events under Caesar, Augustus and Tiberius, and suggests a correlation between events in the Bosporus kingdom and attacks on the Danube and Rhine frontiers, through the interruption of the Black Sea trade. His second period covers Gaius, Claudius and Nero. Here the Chinese come in directly; wars in Kashgaria over the control of the Tarim basin and the silk-route are followed by outbreaks in Bactria, in the Parthian dominions and on the Euphrates frontier. The third and fullest examination covers the years from Vespasian to Trajan, and a careful discussion traces the connections of peoples from the Hwang-ho to the Vistula. TEGGART insists that such correlations are historical facts; it is their interpretation which is at stake; his interpretation would attribute the correlation to interruptions of trade. But he rightly points out that the correlations must first be made, and this presupposes a broader field of reference than scholars like to take. Which is why it has never been done before. TEGGART's book coincided with the outbreak of war and was inadequately noticed in the classical journals; HUGH LAST showed it a somewhat puzzled respect. It has, so far as I know, never been adequately followed up, and it offers a fruitful field of historical research for those to whom the pursuit of knowledge involves building bridges rather than barriers.

Bibliography

ALLEN, H. J. and HIRTH, F., Where was Ta-ts'in ?, J. of N. China Branch of R. Asiatic Soc. 21 (1886) 89—104.

— Ta-ts'in and Dependent States, J. of N. China Branch of R. Asiatic Soc. 21 (1886) 204—13.

BERTHELOT, A., L'Asie ancienne, centrale et sud-orientale d'après Ptolémée, Paris 1930.

CARY, M., The Geographical Background to Greek and Roman History, Oxford 1949.

CARY, M. and WARMINGTON, E. N., The Ancient Explorers, London 1929.

CHARLESWORTH, M. P., Trade-routes and Commerce of the Roman Empire, Cambridge ²1926.

COEDÈS, G., Textes d'auteurs grecs et latins relatifs à l'Extrême-Orient depuis le IVe siècle av. J.-C. jusqu'au XIVe siècle, Paris 1910.

DUBS, H. H., A Roman City in Ancient China, London 1957.

EDKINS, J., What did the Ancient Chinese know of the Greeks and Romans ?, Journal of N. China Branch of R. Asiatic Soc. 18 (1883) 1—19.

FITZGERALD, C. P., China: A Short Cultural History, London 1935.

FORKE, A., Ta-ts'in das römische Reich, Ostasiatische Zeitschr. 14 (1927) 48—60.

FRANKE, O., Kannten die alten Chinesen das Römerreich ? Die Lösung des Rätsels von Ta-thsin, Neue Züricher Zeitung 29. 12. 1921.

FRISK, H., Le Périple de la Mer Erythrée suivi d'une étude sur la tradition et la langue, Göteborg 1921.

HAGER, J., Description des Médailles Chinoises du Cabinet Impérial de France, précédée d'un essai de Numismatique Chinoise, avec des éclaircissements sur le commerce des Grecs avec la Chine, Paris 1805.

HEDIN, S., The Silk Road (English translation), London 1938.

HEICHELHEIM, F. M., An Ancient Economic History, III, Leyden 1970.

HERRMANN, A., Die alten Seidenstraßen zwischen China und Syrien, Berlin 1910.

— Lou-Lan, Leipzig 1931.

HIRTH, F., The Mystery of Fu-lin, Journal of the American Oriental Society 30 (1910) 1—31; 33 (1913) 193—208.

— China and the Roman Orient, Shanghai 1885.

HUDSON, G. F., Europe and China: a Survey of their Relations from the Earliest Times to 1800, London 1931.

HYDE, W. W., Ancient Greek Mariners, New York 1947.

LACOUPERIE, T. DE, Western Origin of the Early Chinese Civilization, repr. Osnabrück 1964.

LAUFER, B., The Diamond, a Study in Chinese and Hellenistic Folklore, Field Museum of Nat. Hist. Chicago 184,15 (1915) 9.

NEEDHAM, J., Science and Civilization in China, I, Cambridge 1954.

NISSEN, H., Der Verkehr zwischen China und dem römischen Reiche, Bonn. Jahrb. 95 (1894) 1—28.

PELLIOT, P., Note sur les anciens itinéraires chinois dans l'Orient romain, J. asiat. 11 (1921) 139—45.

PIJOAN, J., A Greek Glass Vase from China, Burl. Mag. 41 (1922) 235—7.

RICE, T. T., Ancient Arts of Central Asia, London 1965.

ROSTOVTZEFF, M. I., Inlaid Bronzes of the Han Dynasty in the Collection of C. T. Lao, Paris/Brussels 1927.

— The Social and Economic History of the Roman Empire, Oxford ²1957.

— The Social and Economic History of the Hellenistic World, 3 vols., Oxford 1941.

SCHOFF, W. H. (ed.), The Periplus of the Erythraean Sea, New York 1911.

SCHOFF, W. H., Some Aspects of the Overland Oriental Trade of the Christian Era, J. Am. Oriental Soc. 35 (1915) 31—41.

— The Eastern Iron Trade of the Roman Empire, J. Am. Oriental Soc. 35 (1915) 224—39.

— Navigation to the Far East under the Roman Empire, J. Am. Oriental Soc. 37 (1917) 240—9.

— Early Communication between China and the Mediterranean, Philadelphia 1921.

SELIGMAN, C. G., The Roman Orient and the Far East, Antiquity 11 (1937) 5—30.

STEIN, A., Serindia, London 1921.

STEIN, A. and ANDREWS, F. M., Ancient Chinese Figured Silks, Burl. Mag. 37 (1920) 3—10, 71—7, 147—52.

TEGGART, F. Y., Rome and China, Berkeley 1939.

THOMSON, J. O., History of Ancient Geography, Cambridge 1948.

— The Silk Routes and Ancient Geography, Proc. Cl. Ass. 30 (1933) 28—30.

THORLEY, J., The Development of Trade between the Roman Empire and the East under Augustus, GR 16 (1969) 209—23.

— The Silk Trade between China and the Roman Empire at its Height Circa AD 90—130, GR 18 (1971) 71—80.

WARMINGTON, E. H., The Commerce between the Roman Empire and India, Cambridge 1928.

YULE, H., Cathay and the Way Thither, London ^{2}1913—6.

New Studies in Roman Commerce with the East*

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* This paper is the first of a series of studies leading up to the preparation of a new commentary on the 'Periplus of the Erythraean Sea'. Two further monographs, one on the Roman coin hoards in India, the other on the date of the 'Periplus' are currently in preparation. In the course of writing this paper I have had the benefit of advice and assistance from a number of scholars and friends: Professor J. B. Segal of SOAS has made available to me information from the Aramaic documents from Saqqara, which he is preparing for publication; Professor R. S. Bagnall of Columbia University has very generously permitted me to use the manuscript of his forthcoming publication of the Florida ostraca; for permission to study unpublished numismatic material I am indebted to Professor P. R. Franke of the University of Saarbrücken, to Mr. D. Laties, and above all to Dr. W. E. Metcalf, Associate Curator of Roman and Byzantine Coins at the American Numismatic Society Museum, New York. For the translation of the Chinese articles which appear in the notes below I wish to express my gratitude to Dr. H. Tillman of Harvard University. During my own stay at Harvard I benefited from the advice and encouragement of Professors G. W. Bowersock, R. N. Frye and Lien-sheng Yang. In particular I owe an immense debt to my mentor and friend Professor E. Badian to whose teaching, example and inspiration this study owes more than he may be willing to admit. Above all I am indebted to Dr. W. J. Raschke, who read and criticized the manuscript at its various stages and saved me from many errors of commission and omission. Needless to say, none of the above-named scholars are responsible for any errors which may remain in the paper. I also wish to express my appreciation for the assistance I have received from the staffs of the various libraries used in the preparation of this study: the libraries of the Harvard University system and the Yenching Institute, Columbia University, the library of the American Numismatic Society Museum in New York, the University of Toronto, the Far Eastern Library of the Royal Ontario Museum, and Duke University.

Introduction

Long caravans of camels burdened with silk lumbering through the desert, ships laden deep with spices and jewels running before the Northeast Monsoon, Western merchants exchanging bags of gold and silver coins with Chinese and Indian traders for exotic and precious luxuries of the Orient in remote markets at the edge of the known world: all pictures which induce a poetic rather than a critical turn of mind. The study of Rome's commerce with the East appears in modern works of synthesis as a curious and unnatural combination of fantasy and statistics, romance and economic theory. Much is asserted, little is proven. In the absence of a substantial, easily accessible body of evidence, hypothesis replaces fact and the passage of time produces the assumption that what was tentatively suggested in a previous decade is, in the absence of contravention, established proof.

Four studies are here presented. In them an effort is made to examine the communis opinio in the light of the evidence, a good deal of which has previously been ignored in works on this subject. The material assembled has no claims to completeness: it is rather the fruit of preliminary research on the topic. One overriding theme is present. Emphasis is given to a view, primarily associated with the great name of MAX WEBER, that social attitudes and institutions are the most important factors in determining the type, quality, and quantity of commercial activity in a given society. Of necessity our study must focus on a number of ancient societies: Rome, the Near East, Parthia, Arabia, India, Central Asia, Siberia, and China. In all of them different systems of values and attitudes prevailed and in each case these, together with the physical geographic setting, had a vital impact on commerce and its importance in society.

The first of the sections which follows effectively illustrates the central thesis. It will become apparent that neither far-sighted governmental planning nor aggressive mercantile capitalism was responsible for the development of the silk trade. It was the evolution of steppe nomadism and the resulting social and political consequences which created a demand for Chinese goods in Siberia and which eventually brought Chinese garrisons to Eastern Turkestan, astride the roads to the West.

The second study attempts to follow up some of the consequences of the conclusions reached in the first. Hollow moralizing about a gold drain from Rome is replaced by a more complex, but less romantic approximation of reality.

In the third inquiry an assault is launched upon that economic dogma, by no means confined to Marxists, which condemns middlemen as unworthy parasites. It will appear that many of those whom we may describe by this term were not geographically remote and instinctively acquisitive foreigners, but rather subjects of Rome's Empire.

The fourth study is more mundane. An effort is made to outline some of the major problem areas in work on the spice trade and to correct presently accepted but patently erroneous hypotheses.

I. The Rise of the Silk Trade

It is clear that Han China exported silk neither to find new markets for its 'industrial surplus' nor to supply the Roman demand for these fabrics. The silk trade arose from no commercial motive on the part of either party. It will be argued here that Chinese silk first began to move north and west out of China as the result of a socio-economic phenomenon of immense significance: the rise of steppe nomadism. When one ceases to see the role of the peoples along China's Northwest frontier, particularly the Hsiung-nu, as primarily that of middlemen in the international silk trade, the true situation is more readily comprehended.

A brief review of both the rise of steppe nomadism and the relationship between pre-Han states of China and the peoples of Siberia is necessary. The origins of nomad society have been the subject of controversy for several decades. In the absence of literary evidence scholars have been compelled to rely solely upon archaeological excavations and a profusion of conflicting theories has arisen. The period of the Karasuk Culture, variously thought to begin in the thirteenth to eleventh centuries B.C. and to end in the eighth century B.C., is a crucial stage in the rise of steppe nomadism[1]. Until quite recently it was thought that the Karasuk Culture was the product of a migration of Chinese elements into the Minusinsk Basin[2]. Anthropological studies suggested the displacement of a Europoid by a Sinoid population[3]. The evidence for Chinese influence on Karasuk metal working, however, poses chronological difficulties presently insoluble[4]. A re-examination of the anthropological material led to the conclusion that the human remains are more indicative of an influx of the Pamir-Ferghana race of the Tarim Basin[5]. A compromise hypothesis to explain the Chinese reminiscences in the customs and burial practices of the Karasuk people was suggested: the new immigrants were not from China proper but rather from regions within the range of Chinese cultural radiation[6]. Most recently Soviet scholars on the basis of several large archaeological surveys have proposed an explanation more in line with Marxist-Leninist ideology on such matters: the Karasuk Culture was the culmination of a natural process of development from the preceeding Andronovo Culture[7].

The transformation from the Andronovo to the Karasuk Cultural phase was marked by a change from a sedentary pastoral economy to a semi-nomadic transhumance economy[8]. Until recently this culture was only known through its grave sites but now two settlement sites have been excavated, Irmen in the Ob Valley and Kumenny Log in the Yenisey

Valley[9]. The finds both in the burials and in the settlements are indicative of a peaceful population practising herding, agriculture and handicrafts[10].

In the ninth and eighth centuries a major change came about, the rise of true nomadism. How this occurred is the subject of a number of theories, primarily those of RUDENKO, GRIAZNOV, JETTMAR, and LATTIMORE[11]. GRIAZNOV believes that in the eighth century B.C. a number of different tribes in various parts of the steppe abandoned their settled way of life and took to nomadism, following their herds of horses and flocks of sheep in search of pasture. This was the culmination of a long phase of a mixture of both farming and pastoralism in which the latter played an increasingly prominent role. At this stage there is a sudden change, which according to GRIAZNOV required only a few decades to be completed, to true nomadism[12]. RUDENKO's thesis differs from this in two essentials: the transition to nomadism was a gradual process lasting centuries not decades and did not culminate in a purely nomadic way of life, since no such thing exists.[13] Both theories reject the older view that invasions and migrations led to nomadism and cite anthropological evidence to support this reconstruction[14]. JETTMAR's suggestion that other factors such as the dissolution of the Bronze Age aristocracy played a key role in the rise of nomadism, has gained little credence[15]. LATTIMORE, who has made a lifelong study of nomadism in Mongolia, saw this cultural phenomenon as a relatively late manifestation of the fourth century B.C. which was brought about when the tribes along the margin of the steppe north of China, which until then had been both agricultural and pastoral, took up for good an "unmistakeable pastoral steppe nomadism" and established a sphere of activity of their own different from that in China[16]. On the basis of the Soviet archaeological evidence, LATTIMORE's chronology tends to be too late, but the theories of RUDENKO and GRIAZNOV do not preclude a purely local phenomenon in Mongolia, such as that which LATTIMORE describes.

It has been stressed by a number of scholars that true nomadism does not exist: it is an example of what MAX WEBER termed a 'perfect case'[17], an analytical tool rather than a description of reality[18]. Agriculture continued to exist and was practised as a permanent occupation both by farmers and also by some nomads. What characterizes the nomadic period in Central Asia and Siberia is not its universality throughout the region but rather its superiority over other forms of activity on the steppe. Nomadism was economically the most viable and sophisticated technique for gaining subsistance and even wealth from the meagre agricultural resources of the steppe. Such a high degree of economic specialization[19] is completely feasible as the result of a long period of development and requires neither the gradual dessication suggested by TOYNBEE[20] nor the drought proposed by PRŮŠEK[21].

The increased mobility of the mounted herdsmen led to increased interaction with other people, largely in the form of warfare over pasture usage[22]. The need to defend herds against predators, both man and beast, led to the advent of the mounted warrior. As a result steppe cultures from the seventh century onwards are characterized by the burial of the warrior with his horse and arms, and by the fortification of agricultural settlements.

In the West the Scythians migrated from their lands west of Dzungaria to the steppes of Southern Russia[23]. Whether they and the Animal Style, of which they were one of the primary carriers, were ever under Chinese influence is still a matter of some debate[24]. In the East we find evidence of nomad raids on settled farmers. At Bolshaia Rechka in the Ob valley, a settlement of large earth houses dated to the seventh and sixth centuries B.C. shows evidence of nomad raids[25]. The poverty of such sites as Bystriansk Kordon, Blizhnie Elbany and Biisk, where there is ample evidence that agriculture, hunting, and fishing were practised, is taken as indicative of the failing of agricultural life under nomad pressure[26].

In contrast, a feature of nomad life was the increased wealth of its practitioners. A more effective method had been found to wrest a living from the steppe[27]. The period is also characterized by an increased difference in wealth and the rise of a powerful tribal aristocracy. The birth of the Animal Style of art, well known from the collection of gold plaques in the Hermitage Museum[28], may also be seen as the result of the rise of a body of wealthy warriors who required such ornaments as an external expression of their status and system of values[29]. So also were the great grave kurgans in which the tribal aristocrats were buried[30]. For example, at Besshatyr in the Ili Valley massive tree trunks were brought from forests 120—150 miles away and an estimated 50,000 cubic meters of earth and 1000 stone slabs were moved to the burial from almost two miles away[31]. The Kara kurgan, excavated on the Abakan steppe and attributed to the Podgornoe phase of the Tagar Culture (sixth and fifth centuries B. C.), had an enclosure wall of 14 huge stone slabs up to 3 meters high[32]. From the Saragush phase (fourth and third centuries B.C.) of the Tagar Culture in the Minusinsk Basin we have kurgans at Salbyk which include in their construction stone slabs weighing 30—40 tons[33]. The most famous of all such structures are the kurgans of the High Altai, in particular Pazyryk[34]. These and other sites in the Altai such as the Shibe, Tuiakhta and Bashadar kurgans were once thought to be from the Hsiung-nu period[35]; however, by means of dendrochronology their sequence of construction has been determined and radiocarbon tests have suggested a date in the fourth century B.C.[36]. Any attribution of the Altai finds to a tribe or group of tribes must remain purely a matter of speculation[37]. The discovery of Chinese silks and mirrors in kurgan V at Pazyryk and the Shibe kurgan were regarded as definite proof of a Hsiung-nu date[38]. It is now realized that Chinese goods, particularly silks, mirrors and lacquer objects, were already known in small quantities at a much earlier period[39]. Their presence in the graves of the nomad warrior aristocracy is all part of the same phenomenon which produced the rich grave inventories, from the great kurgans of the Ukraine[40] in the West to the Uyuk Valley in the Tuva region in the East[41]. Unfortunately almost all of these graves have been plundered either in antiquity or by the *bugrovishchi* of modern times. Since Chinese silks, lacquers and mirrors had little appeal to these robbers, the finds of Chinese goods in Central Asia are a relatively good approximation of the frequency of their possession by nomads in antiquity[42].

As LATTIMORE has pointed out, a steppe economy is a good deal more self-sufficient than that of settled societies. The universal spread of essentials within nomad society encouraged a social demand for luxuries from outside the range of the society itself as a sure way of distinguishing between the greater and the lesser people[43]. On the Pontic Steppe Greek wines, textiles, eating and drinking vessels and objets d'art fulfilled this need[44]. In the East Chinese and Persian goods served the same function[45].

The means by which such goods were acquired are of great importance to the economic historian. In the East large scale organized trade may be eliminated as a significant factor. There is no evidence at present to indicate the existence of professional traders even among such sophisticated steppe tribes as the Hsiung-nu, let alone among earlier nomads[46]. Foreign goods were acquired in a number of ways. Warfare played an important role. Both as raiders or as mercenaries for the Persian Empire[47] or the Chinese states[48] the nomad warriors were able to acquire goods produced a great distance from their homeland[49]. Nomad tribes also levied tribute on settled neighbours to whom they were militarily superior, as for example, the Hsiung-nu exactions from the oases of the Tarim Basin, as well as on weaker nomad tribes, as, for example, the Yüeh-chih from the Hsiung-nu and the Hsiung-nu from the Wu-huan[50]. Intertribal marriages could take place over distances of many hundreds of miles and rich wedding gifts were provided. This is attested by the intermarriage between the Hsiung-nu and Wu-sun aristocracy[51]. Intertribal barter trade was important as well. This was not carried on by professional traders but by the mass of the population of both tribes. Such meetings between tribes occurred infrequently and at irregular intervals[52]. Since an individual tribe could cover many hundreds of miles in its movement from summer to winter pasture, it came into contact with a wide variety of other tribes and agricultural settlements[53]. As a result, the dissemination of goods over a large area could take place relatively quickly.

The exchange of gifts also played a prominent role in nomad society. This is attested by the early exchanges of gifts between the *Shan-yü*[54] of the Hsiung-nu and the Han Emperor. In a sense this exchange could assume considerable proportions[55], but it must not be forgotten that in its inception it was a veiled form of tribute based on the military superiority of the steppe tribes. The practice of gift-giving was also important among the aristocrats and rulers of the Tarim Basin oases and one can study its mechanism in several Kharoṣṭhī and Chinese documents[56]. Although some have seen this as essentially a form of barter trade[57], two reservations are necessary: the giving of gifts occurred at irregular intervals and was determined by social and political relations rather than the market system, and neither party could determine what the gift object from the other was going to be[58].

These manifold mechanisms for the acquisition and exchange of goods in a steppe society are reflected in the grave goods excavated in burials and kurgans[59]. To date several thousand such graves have been excavated and the quantity of foreign goods even in aristocratic burials is usually minimal and in the small graves of the poorer members of the tribe it is almost always non-existent. By such means as described above it is possible to explain how Chinese goods over a period of several years or even decades were transmitted from hand to hand from the Chinese frontier to the Danube. This may explain the finds of silk at Heuneburg in a Halstatt grave of the sixth to fifth centuries B.C. and in a similar grave of Rheingönheim[60] as well as in Sarmatian graves at Shipovo and Marienthal in the Volga region and at Kerch in the Crimea[61]. The Sarmatian graves of the Pontic Steppe and the Volga region have also yielded Chinese mirrors[62] and other oriental artifacts such as jade scabbard slides[63]. Further east in Central Asia and the Minusinsk Basin a considerable number of Chinese artifacts, particularly mirrors, have been unearthed[64]. The vast region stretching from the Soviet Maritime Province to the Danube has yielded far more early Chinese artifacts than India, Iran, and the Mediterranean area[65]. This fact and the individual and scattered nature of Chinese finds in Northern Asia is far more indicative of the diverse mechanisms of acquisition and exchange described above, than of the single caravan route across Siberia which is envisaged by some[66]. Such a route, it is argued on the basis of the 'Arimaspea' of Aristeas of Proconnesus, was in existence in the sixth century B.C.[67] and was used intermittently throughout antiquity, particularly in the Roman Imperial period[68]. While small individual objects, especially those such as mirrors which had great religious importance[69], could move west across Asia by the means described above, it must be remembered that commerce on the steppe primarily followed the major river valleys and thus moved north-south rather than east-west[70].

The Chinese literary evidence also supports this conclusion. On the basis of early battle accounts it appears that the life of barbarian tribes such as the Ti on the borders of the Chinese states was little different from that of the Shang and Chou themselves[71]. In the fourth century B.C. this began slowly to change as the Chinese grew aware of somewhat more remote tribes such as the Hsun-yu[72]. The race and language of these early barbarian neighbours of China is still a matter of dispute. Few, however, would uphold the old thesis of HEINE—GELDERN that the Yüeh-chih, then living on China's northwest frontier, were originally Indo-Europeans from Thrace[73]. PULLEYBLANK has shown that no such migration need be supposed to explain the presence of an Indo-European 'centum' language similar to those of Western Europe in the Tarim Basin[74]. During the Chou period Chinese development and expansion were eastward[75] and Kansu remained in barbarian control[76]. In the Ordos region there existed an independent bronze culture which was replaced in the third century by the Hsiung-nu[77]. Further east in Manchuria and in the Maritime Province south of the Amur, sites such as Chapigou, Semipyatnaya and Malmyzh, all from c. 500 to 200 B.C., show Chinese influence in their pottery and metal work[78]. In the later stages Chinese coins are present but the relative lack of Chinese luxury goods is significant. Here the economy was based on fishing, hunting and marginal agriculture[79]. Although the burials reflect some social differentiation, the aristocratic tombs both on the mainland and Kyushu island display a much smaller degree of aristocratic wealth than the nomad tombs of Siberia[80]. This material poverty and a similar poverty in the primarily agricultural settlements in the steppe and forest steppe[81] indicate why nomadism became the dominant social form on the steppes of Central Asia and Siberia: the nomadic herder with his horses and sheep made more efficient use of the limited resources of the Siberian landscape. This supposition not only allows us to explain the gradual rise of nomadism without resort to such theoretical phenomena as dessication and long periods of drought, but also to explain the dissemination of Chinese silks, lacquers and mirrors in Asia. These rare luxuries, particularly silk, gave increased status to the owner. This was of great importance in a society otherwise differentiated only by the quantity rather than the quality of its material possessions. This attitude is reflected in the use to which silks were put by the nomads. It has long been noted that the cutting-up of fine patterned Chinese silks to form the shabrack found in Pazyryk kurgan V is indicative of the 'disrespect' shown to even the finest silks by the nomads[82]. Such treatment reflects an attitude which treasures silks for the status value derived from their ownership rather than from any artistic appreciation of the material involved[83]. In a greatly intensified form we meet this attitude again in the princely kurgans of Noin Ula[84].

How these luxury items were acquired from the Chinese who produced them is uncertain. Marriage gifts are one possibility, since we know, for example, that the Ch'in intermarried with the Ti tribes[85]. Booty gained in warfare probably played the greatest role in the acquisition process. Small scale trade may also be supposed. However, when Wu-chih Lo (fl. 246 to 210 B.C.) gave gifts of silk to the ruler of the Jung on the northwest border of China and received in return cattle and horses ten times the value of the gifts, the transaction was considered such an exceptional coup that the first Ch'in emperor of China gave orders that he be honoured as though he were an enfeoffed lord[86].

For the rest we know little about such trade, although some suggest that a minor contributing factor for the completion of the Great Wall was the desire by the Ch'in to restrict such frontier trade[87]. Once Chinese luxury goods had reached those tribes closest to China[88], they then moved north and northwest to the steppes as booty from raids, as gifts between tribal aristocrats, as tribute, or as items used in barter trade. In this fashion Chinese goods could travel in small quantities, often perhaps only a single item, to the remote corners of Eurasia by many hundreds of natural lines of communication rather than by a single 'caravan route'. Silk in small amounts was quite likely known to the Greeks living in Bactria long before

Chang Ch'ien's visit, since the aristocrats of the Yüeh-chih tribes, who had been driven from Kansu by the Hsiung-nu, probably had a few such silks among their most treasured possessions[89].

A very significant acceleration in the process described above took place with the rise of the Hsiung-nu Empire. We first hear of this tribe in the late third century B.C. when they were the weaker neighbours of the Yüeh-chih in Kansu[90]. Chinese tradition holds that before that time the Hsiung-nu had lived in the Ordos region, whence they were driven by Chinese military pressure[91]. Efforts to identify the Hsiung-nu with earlier tribes on the periphery of Chinese civilization have met with little success[92]. The Hsiung-nu language has also largely remained a mystery[93]. Racially the Hsiung-nu (it is usually assumed that they are such) buried at Noin Ula were Mongoloid[94]. Nor is EBERHARD's designation of their tribal organisation as 'Turkish' rather than Mongolian very illuminating[95]. The Hsiung-nu Empire rose under the influence and stimulation of the newly unified Chinese Empire[96], just as in the West the kingdom of Maroboduus came into being on the northern frontier of the Roman Empire[97]. In such a situation the distinctions drawn by EBERHARD are excessively rigid and can have little value[98].

Like other such tribal confederations the Hsiung-nu were probably not racially or culturally unified[99]. Such distinctions as 'Turkish' or 'Mongol' (not as used by EBERHARD) are considerably weakened by the realization that when the Northern Hsiung-nu were finally overwhelmed by the Hsien-pi, their eastern neighbours, in the second century of our era, most of the members of the defeated tribe simply joined the victors and henceforth called themselves Hsien-pi[100]. There is, furthermore, little orchaeological evidence for the very persistent belief in a Western migration of a branch of the Hsiung-nu to the area north of the Caspian Sea, where they allegedly reappear in classical sources as the feared Χοῦνοι or Huns. All efforts to justify the Hsiung-nu—Hun equation, whether on archaeological or philological grounds, have failed and it is misleading to continue to assume such an association in view of the absence of any evidence to support it[101].

The sudden and swift rise of the Hsiung-nu under Mo-tun is difficult to explain except as the combination of organisational techniques, in part adopted from China, with a superior mounted-warrior military technique[102]. PRŮŠEK has recently again stressed the point made by ROSTOVTZEFF long ago, that the Hsiung-nu were armed in Sarmatian fashion with long swords, lances and compound bows and body armour, and that they were shock cavalry rather than light mounted-archers[103]. Considerable support is given to this theory by Chinese excavations in the hitherto largely ignored areas of Manchuria (Ordos) and Northern Shansi. The cemeteries at Tung-shan-hsiang in Liao-ning province and Cha-lai-no-erh in Hei-lung chiang are both attributed to the Hsiung-nu or a tribe under their domination and the weapons excavated reflect the situation described above[104].

The *Shan-yü* Mo-tun and his subordinate kings carried all before them. At its height the Hsiung-nu Empire included on the East the Hsien-pi and Wu-huan[105], on the North the Tuva region and the Minusinsk Basin[106], in the West the Tarim Basin and the Wu-sun and beyond[107]. The magnitude of the western domain is attested in a letter from Mo-tun to the Chinese emperor in 176 B.C.[108]. The extent and early date of Hsiung-nu rule in the Tarim Basin, where they were preceded by the Yüeh-chih, should put to rest forever the hypothesis popularized by TARN, that Euthydemus conquered at least some part of the Tarim Basin[109]. The conquest of Ferghana and the area east of the Pamirs by any Bactrian king, whether Euthydemus, as TARN suggested, or Demetrius I, as NARAIN proposed, is entirely fictive[110].

Archaeologically the Hsiung-nu Empire appears, as indicated by the various burial customs, to have been a mixture of races and tribes. In the East at Tung-shan hsiang and at Cha-lai-no-erh skeletons were found buried in pit graves[111]. At Noin Ula, usually accepted as the cemetery of Hsiung-nu princes, great kurgans were thrown up for the dead[112]. The deep pits (1.5 to 4 meters) contained a wooden chamber at the bottom within which was laid a coffin of boards containing the body[113]. Most graves, however, were those of ordinary people and were built on a much smaller scale. The 214 graves in the necropolis at Sudzhinsk and the 260 graves at Derestui are also attributed to the Hsiung-nu[114]. In the Transbaikal region a number of grave sites at Il'movaia Pad and Chida have been attributed to the Hsiung-nu[115]. In the same area a fortress with four low consecutive walls has been found. Once thought to have been a *Nomadenlager*, it is now explained as a border fortress built possibly by Mo-tun to control the defeated northern forest tribes[116]. The Abakan plain also yielded an example of what was at first thought to be a Chinese-built house for the captured Li Ling, a Chinese commander sent by his captors, the Hsiung-nu, to govern this remote corner of their empire. Further excavation has led to the suggestion that this large permanent dwelling belonged to a member of the Hsiung-nu nobility[117]. RUDENKO has also pointed out that there is other evidence for believing that the Hsiung-nu nobility lived in permanent wood and mud-brick built houses for at least part of the year[118]. The remains of the *Shan-yü*'s capital have not yet been found in the area north of the Gobi Desert[119]. Elsewhere in the Hsiung-nu Empire this period is characterized by the arrival of a people who practised cremation in their burial ritual[120]. This diversity is, in fact, what might be expected in an empire which included many races and cultures.

Above all, the archaeological evidence gives us a somewhat clearer understanding of the Hsiung-nu economy. LATTIMORE's picture of a nomad empire importing all of its manufactured wares must be considerably modified[121]. One cannot agree with YING-SHIH YÜ who, although realizing that the Hsiung-nu had some metallurgical skills, feels compelled to see most of the iron found in Central Asia as imports, both legal and smuggled, from China[122]. In fact, iron metallurgy developed in Central Asia west of the Pamirs in the Iaz-Tepe I Period (c. 1000—800 B. C.?)[123]. The first iron objects appear in Siberia at approximately the same time as in

China[124]. Soviet archaeologists have found that the Hsiung-nu were not only very familiar with wrought iron but also produced their own cast iron[125].

The Hsiung-nu Empire also included agricultural settlements and a number of small cast iron ploughshares have been found at Ivolginsk as well as millet grains in many of the burials[126]. Other sedentary peoples in the empire, such as those who lived in the settlement at Bolsherechenskoe, lived by hunting and fishing[127]. Rather than importing from China many of the goods they desired, it is clear that they employed thousands of captured Chinese craftsmen in the area north of the Great Wall[128]. The Hsiung-nu armies captured tens of thousands of defeated Chinese soldiers as well as carrying off thousands of civilians from the border regions[129]. It is no doubt by this means that such techniques as making cast iron reached the region[130]. Furthermore, the Hsiung-nu pastoral economy was not simply restricted to sheep and horses. The Hsiung-nu sites have yielded the bones of camels, yaks, and cattle[131]. The nobility continued the status-producing practice of breeding fine horses, a pastime already found in the Pazyryk phase in the Altai[132].

Organized along centralized administrative lines in part copied from China, and with scores of other tribes paying tribute and contributing troops, the Hsiung-nu Empire was a power of sufficient magnitude and military strength to challenge the Han Empire. In this sense the Hsiung-nu were different from all previous nomad enemies on the north and northwest frontier[133]. Their military power rather than any cultural differences attracted the attention of contemporary Chinese historians[134].

The Chinese reaction to this new and powerful menace was defensive. The northern walls, which had been erected since the fourth-century B.C. by the feudal states, were joined into a solid fortification line in 214 B.C.[135]. As LATTIMORE has shown, the wall was essential both to keep the nomads out and to prevent the people living on the frontier, commoners and high ranking officials and generals alike, from going over to the Hsiung-nu[136]. As the supporters of the politically exiled and as mobile and violent raiders, the Hsiung-nu constituted a menace to agricultural China far in excess of what might be expected from their small numbers[137].

In 201 B.C. the first Han emperor Kao-tsu was surrounded by Mo-tun at P'ing-ch'eng. A number of Han generals went over to the Hsiung-nu, as did Hau Hsin, the former king of Tai[138]. Mo-tun chose not to destroy the Han emperor and Kao-tsu presented the *Shan-yü* with a princess of the imperial family as a consort[139]. The Chinese also agreed to send a gift of specified quantities of silk floss and cloth, grain, and other foodstuffs each year to the Hsiung-nu. After this there were fewer raids on the frontier[140]. In paying tribute to the Hsiung-nu the Chinese emperor made the best of a grave situation. The so-called *ho-ch'in* (peace and friendship) system was not a matter of conscious choice by the Chinese, but rather a reflection of their military inadequacy[141]. China traditionally had no interest in expansion northwards where settled agriculture of the Chinese type was impossible[142]. Above all, Chinese acquiescence to this humiliating system of foreign relations was a matter of survival. The hold of the Hsiung-nu over Han China stemmed from their ability to raid Chinese territory, trample crops, and carry off people. This destroyed the Han government's tax potential and required expensive relief measures for the affected areas. As well, the hundreds of thousands of Chinese troops raised to meet a major raid, which usually came in autumn, disrupted the harvesting elsewhere in the empire, drawing valuable manpower from corvée duty and sometimes setting off migrations of vagabonds. The Hsiung-nu raids were thus a major disturbing factor to the economic and political stability of the Han government[143]. The tribute payments pacified the Hsiung-nu until 174 B.C., when Mo-tun was succeeded by his son, Chi-chu. Under the malignant influence of a renegade Chinese eunuch, Chung-hsing Shuo, or possibly because of the need to prove his martial ability, the new *Shan-yü* began to raid China[144]. In 166 B.C. a large army of Hsiung-nu cavalry swept over the border and came through the Ch'ao-na and Hsiae passes. They rode as far as P'eng-yang, sent a force to burn the Hui-cheng Palace and their scouts reached the Palace of Sweet Springs in Yung, near the Han capital. The Hsiung-nu remained in China one month and when they departed they took great numbers of people and animals with them[145]. The great forces mobilized to deal with them could not catch the raiders[146]. In subsequent years the raids continued[147]. By 162 B.C. a new agreement was made assuring the Hsiung-nu of yearly shipments of millet, gold, silk cloth, thread, and floss[148]. The severest test of the Former Han came in 154 B.C. when the kingdoms of Wu, Ch'a and Chao rebelled against the Han and called in the Hsiung-nu[149]. With the credit of the imperial dynasty worthless even in Ch'ang-an, the fatal nature of the Hsiung-nu menace was clearly revealed[150]. Swift action defeated the rebels before the nomads could intervene. The lesson was not lost at court. The emperor Ching (157—141 B.C.) allowed the Hsiung-nu to barter for goods in the markets along the frontier and sent them annual supplies of food and silk[151]. The Chinese thus assumed the same role as many tribes within the Hsiung-nu Empire. An annual tribute payment — and it cannot be called anything else — to the *Shan-yü* assured peace along the frontier[152]. No real commerce was involved. The *Shan-yü* occasionally sent a few horses as a token of good will to the Han emperor, but on the whole the flow of goods was in one direction[153]. In return the Hsiung-nu undertook not to make major raids on the Chinese frontier. Whether Chinese tribute payments were designed to weaken the Hsiung-nu and convert them to a Chinese way of life, as Chia I suggested, is uncertain. The plan sounds more like an effort to derive some benefit from a humiliating situation[154].

In view of this historical background the relationship between Chinese foreign policy and the silk trade is placed in a different light. SIR AUREL STEIN, who saw the world through the eyes of JOSEPH CHAMBERLAIN, believed that China's expansion into the Tarim Basin, part of the area known to the Chinese as the Western Regions, was due to a desire to find an outlet for its industrial product, silk[155]. This view has remained the communis opinio for over fifty years and has been rejected by only a few sinologists[156]. From the evidence discussed above it becomes clear that the Chinese expanded into the Western Regions for political reasons. The events of 166 B.C. and 154 B.C. showed that there was a clear and pressing need to prevent the nomad tribes from disturbing the imperial order. In 141 B.C. the Emperor Wu-ti came to the Throne. Deeply religious and superstitious, the young ruler took an active interest in foreign regions both to the East and to the West[157]. Against the Hsiung-nu the Chinese for the first time took the offensive and counterattacked militarily and diplomatically. In 138 B.C. Chang Ch'ien was sent on a mission via the Tarim Basin to find allies among the Yüeh-chih, old enemies of the Hsiung-nu, whom the latter had forced to migrate from their old homeland in Kansu to the area north of the Oxus[158]. Although the mission was unsuccessful and demonstrated the difficulties of getting past the Hsiung-nu, further embassies were sent[159]. As far as we presently know, this was the first direct Chinese contact with the region west of the Pamirs[160]. Speculations about earlier commerce along this route or across Tibet based on the account of Chang Ch'ien's mission in the 'Shih-chih'[161] or the nickel content of a few rare specimens of the coins of Euthydemus, Agathocles and Pantaleon should be abandoned[162].

Although the main grazing grounds of the Hsiung-nu lay north of the T'ien-shan Range, their control of the Tarim Basin greatly enhanced their power. The grain from the oases of Turfan and Hami was vital to their food supply[163] and the Turfan-Hami route and the valleys of the Nan-shan Range provided an easier invasion route into China than crossing the great desert north of the Su-lo River. In order to deprive the Hsiung-nu of the resources of the Western Regions, as the Chinese phrased it, to cut off their right arm, to strengthen the northwest frontier and to prevent the northern nomads from acting in concert with the formidable Ch'iang tribes of Tibet, Wu-ti (141-81 B.C.) took the offensive[164]. During the last decade of the second century B.C. the Chinese extended the Great Wall westwards and built a fortified wall and chain of watchtowers from Nang-chia to the west of Tun-huang[165]. A great and costly undertaking, the wall stretched for over 200 miles from Nang-chia to the Jade Gate and included 570 watchtowers[166]. A similar fortification system was built up the valley of the Edsin-Gol to cut off this easy invasion route[167]. The entire system was defended by a permanent garrison backed by military colonies[168]. The campaigns and fortifications were fantastically expensive. Ssu-ma Ch'ien, writing about 100 B.C.[169], recorded in his 'Shih-chih' that by 123 B.C. Wu-ti had emptied the treasury by payments of 200,000 catties of gold to his soldiers[170].

Diplomatically, too, the Han were on the offensive. Chang Ch'ien's mission was followed by other embassies to the various rulers of the Western Regions[171]. Laden with gifts of silk and gold these missions attempted to purchase the friendship and nominal submission of the local rulers. In some years of Wu-ti's reign as many as ten embassies annually set out for the

West and the suspicion arose in court circles that the polluting stain of commercial motivation besmirched the noble purpose of these missions[172]. The emperor was primarily concerned with the enhancement of his status derived from the submission of far-off and previously unheard-of peoples and with the import of curious objects or rare luxuries from these regions[173]. The emperor's vanity and personal religious feelings also largely explain the motivation behind the famous incident of the Ferghana horses of 102 B. C.[174]. When the people of Ferghana refused Wu-ti's offer to purchase some of the famous 'bloodsweating' horses of the region[175], two military expeditions, one abortive, were sent to seize the animals. The inspiration behind the entire incident seems to have been the emperor's vanity and superstition[176] and no comparison may be drawn with the commerce of the Yüan and Ming when silk and then tea was exchanged for horses for the Chinese cavalry[177]. At any rate, Wu-ti's reign saw more recorded activity along the routes of the Tarim Basin than in any subsequent Han period and the gifts of silk to the princes of the Western Regions were so lavish that the material came to be held in contempt in these areas[178].

After 80 years of warfare the Hsiung-nu were at last pacified, to a large degree due to internal divisions. In 60 B. C. the nomads broke up into five groups and waged a civil war against each other for the throne[179]. By 45 B. C. the more southern of the two remaining parties of the Hsiung-nu was in distress and offered its allegiance to the Han Emperor[180]. In the next year the *Shan-yü* of the Hsiung-nu attended the Chinese court and received among other valuable gifts 8,000 rolls of silk and 6,000 catties of silk floss[181]. Encouraged by the gifts he had received, the *Shan-yü* again came to pay homage the next year. The gifts were increased and this time included 9,000 rolls of silk and 8,000 catties of silk floss[182]. In subsequent years the *Shan-yü* or his representative continued to attend court[183]. Such embassies are not recorded for every year; however, it is uncertain whether the dynastic history records all such events[184]. By 1 B. C. the quantities of gifts sent to the Southern Hsiung-nu had risen to 30,000 catties of silk floss, 30,000 rolls of silk and 370 suits of clothes[185].

It has been supposed that this period marked the establishment of the tributary system of barbarian relations well documented by FAIRBANK for the Ch'ing dynasty (1616—1912)[186]. The system imposed a number of restrictions on the barbarians. They must keep the peace and send a prince of the royal house to the Chinese court as surety for their submission. The *Shan-yü* or some nobles representing him should come to China to pay homage and the Southern Hsiung-nu must send tribute to China. The latter was usually of such small monetary value as to be considered as largely symbolic in nature[187]. The abundance of Chinese gifts greatly increased the power of the Southern Hsiung-nu who were joined by members of rival tribes eager to share in the plenitude of Chinese goods and food. Whereas before the Hsiung-nu had satisfied their needs for Chinese goods by raids and the conquest of Chinese territory, they now became dependent upon the Chinese for grain, silk, and even cattle. This, too, may have been a calculated result of Chinese policy. A memorial to the throne from the mid-second century B.C. advocates a policy of showering an abundance of Chinese goods on the northern nomads so that they might develop a taste for the settled agricultural life of the Chinese[188]. The system worked well and seems to have produced the results desired by the Chinese, peace and barbarian submission.

The structure broke down with the end of the Former Han dynasty. Progressive degeneration at the centre invited external aggression. The last members of the dynasty were minors or weaklings dominated by ambitious eunuchs and intriguing female relatives[189]. A hostile tradition placed the blame for the break with the Hsiung-nu on the usurper Wang Mang (A.D. 9—23), who allegedly slighted the *Shan-yü*[190]. The Hsiung-nu raids began anew as China was increasingly weakened by massive internal social unrest, in part the product of the innovative and occasionally bizarre economic policies of Wang Mang, and by civil war[191]. The last garrisons, as the documents from the *limes* reveal[192], were not withdrawn until early in the reign of Kuang-wu (A. D. 25—58), first emperor of the Later Han, when the need for the troops to repel dynastic enemies within China became critical[193]. The new emperor closed the barriers on the northwest frontier and the Tarim Basin was left to fend for itself[194]. Whether the transverse wall built in a roughly north-south direction from the Yü-men Barrier to the Yang Barrier discovered by STEIN in his survey of the T'un-huang *limes* was designed to cut off the flow of traffic west from Chinese territory is uncertain[195]. The Tarim Basin itself fell under the domination of a number of ambitious local rulers in Yarkand, Lou-lan, Khotan and Turfan[196] who shared the region with the Hsiung-nu, who controlled the northern oasis of Hami[197].

In A.D. 50 increased stability at home and renewed warfare between the Hsiung-nu tribes provided an opportunity for a renewal of tributary relations between China and the Southern Hsiung-nu. The first gift to the nomads included 10,000 rolls of silk and 10,000 catties of silk floss[198]. Again in time the amounts increased: the envoys received 1,000 rolls of silk and the Hsiung-nu 10,000 rolls over and above the gifts to the *Shan-yü*[199]. It has been estimated on the basis of very fragmentary statistics that in the period A.D. 50 to 100 the total cost of gifts to the Hsiung-nu and other tribes amounted to 7 % of the annual imperial budget[200].

In A.D. 73 Chinese troops again moved into the Western Regions. The first objective was the oasis of Hami on the Northern Route then dominated by the Hsiung-nu[201]. The court conferences leave no doubt about Chinese motivation: to deprive the Hsiung-nu of the resources of the Tarim Basin would greatly reduce the nomads' ability to wage war against China[202]. The Chinese enjoyed only ephemeral success in these operations[203] until A. D. 74, when the great Pan Ch'ao was sent out on a mission into the Western Regions[204]. A master military strategist, Pan Ch'ao conquered much of the Tarim Basin for China by the use of native rather than Chinese troops[205]. In A.D. 97 he sent a subordinate, Kan Ying, on a long exploratory trip still further west and scholarly communis opinio attributes to this gentleman a visit to the head of the Persian Gulf[206]. How much of this was done with imperial approval is uncertain. In A. D. 76 Pan Ch'ao was disowned by the emperor for disobeying an imperial mandate to abandon his military activities in the Western Regions, and, although he was eventually reinstated to favour, during much of his stay in the Tarim he behaved more like one of the powerful princes of the oases than a Chinese administrator[207].

In A.D. 107 the tribes of the Western Regions took advantage of the retirement of Pan Ch'ao and the death of the emperor to again drive out the Chinese[208]. Under the command of PanYung, son of Pan Ch'ao, in A.D. 120 a campaign of reconquest began and the Hsiung-nu suffered several disastrous defeats[209]. How long the imperial government retained its hold on the West is uncertain. As the second century of our era drew to a close Chinese control completely disappeared[210]. In A.D. 168 a civil war began at Kashgar and the failure of the combined Chinese forces to restore order is the last datable event recorded in the Han Annals[211]. By A. D. 185 not only was the Tarim Basin lost but also T'un-huang and the rest of this part of Kansu were in danger of being overrun[212]. Faced with internal rebellion and famine the government could do little to re-establish order[213]. On the northwest frontier its troops revolted[214].

In the Three Kingdoms period (A.D. 221—264) there are few references to the Western Regions[215]. Under the Western Chin (A.D. 265—317) a new effort was made to reconquer the Tarim Basin[216]. Chinese documents appear in the excavations at the Niya River site and Lou-lan side by side with the Kharoṣṭhī records of the indigenous administration[217]. In the first decade of the fourth century Chinese rule again collapsed in the West, although some garrisons appear to have held out for another twenty years[218].

The above study of the lengthy relationship between the Chinese and the nomads of Central Asia clarifies a number of points. Neither the Former nor the Later Han rulers had the slightest interest in selling their silks to the West and were not motivated by any such desire in their repeated efforts to conquer the Western Regions. Chinese expansion and the establishment of the tributary system were politically and militarily motivated. The purpose was to create stability on a turbulent frontier and to accommodate the Hsiung-nu within the concept of Chinese imperial world order.

The result of Chinese policy was to fill the frontier territories with silk. The STEIN and Sino-Swedish expeditions found that silk was the most common material for clothing excavated in the watchtowers and rubbish heaps of the T'un-huang and Su-lo Ho *limes*[219]. The silk finds around Lou-lan and at the Niya River site testify to a widespread use of silk among the Chinese and the natives living in the Tarim Basin[220]. Throughout their empire archaeological finds of Hsiung-nu date reflect a growing taste for Chinese rice, lacquers, umbrellas, and above all silks[221]. In the acquisition process plunder and tribute played the primary role. In times of peace the nobility obtained their silks as gifts from the *Shan-yü*, who received them in turn from China. Grain, which provided greater long term storage problems, was probably purchased by people of less social standing in the border markets by barter trade[222]. With alternate means of acquisition available it is unlikely that the border markets granted to the Hsiung-nu by the Chinese had more than local importance[223]. Certainly one hears of no great Chinese merchants who traded there[224]. It is possible that these markets were of greater importance during the *ho-ch'in* period than during the subsequent tributary system, when truly massive quantities of Chinese silk were sent to the Hsiung-nu[225]. These nomad rulers drew tribute and troops from the far corners of their empire. The Wu-huan in the East paid an annual tribute[226] and the oasis states of the Tarim Basin likewise were forced to contribute[227]. There is, however, no evidence that the caravan trade, if and when it existed, suffered from Hsiung-nu levies and exactions[228]. The textiles of 'Greek workmanship' found at Noin Ula cannot be traced farther west than regions under the influence of Greek Bactrian culture[229], that is, regions paying tribute to the *Shan-yü*. The suggestion that the Hsiung-nu, having neither an environment appropriate for its use nor the means of storing the great quantities of silk obtained as Chinese tribute, plunder, and later in the first century as 'gifts', made themselves the leading middlemen in the trade of silk to the West[230], is unsupported by any evidence. The question only arises for those who have failed to study the archaeological evidence and rely on an anecdote recounted by Ssu-ma Ch'ien about an interview between the renegade Chinese eunuch, Chung-hsing Shuo, and the *Shan-yü*[231]. It is equally possible to interpret the passage as indicative of the ignorance of many Chinese officials about conditions among the nomads north of the wall[232].

Silk has been found in sites of Hsiung-nu date in larger quantities than in any other period in Siberian and Central Asian history. Most important are the princely kurgans of Noin Ula where one can see again the same phenomenon of 'disrespect' for expensive textile materials previously noted at Pazyryk[233]. Here also silk is treated as a status symbol; the quantity possessed designated the social position of the owner. Its use was more varied than even in China. At Noin Ula silk was found nailed to the walls and beams of the grave chambers and glued to the exterior of the coffin and was used for the clothing and underclothing of the dead, for caps, bags, carpet linings, to cover the face of the dead and for burial flags. Even the trousers so typical of the nomads were made of silk. Silk floss was utilized to stuff a wide variety of objects including the linings of clothing. Virtually the only items of wool or felt found at Noin Ula were the carpets and wall-hangings[234]. The new excavations of the Hsiung-nu tombs at Oglakty have produced further large quantities of Han silk[235] and smaller amounts have been excavated at Il'movaia Pad[236]. Silk was not as unsuited to the military conditions of the northwest frontier as some would believe. On the Edsin-Gol and T'un-huang *limes* the watch-stations and rubbish heaps left by the Chinese garrisons contain far more silk than all other textiles together[237]. This is confirmed by the references in Han time documents from the same area to the silk clothing worn by members of the garrison[238]. The Kharoṣṭhī documents from the Niya River site indicate that the natives of the Tarim Basin possessed similar attire[239]. There thus remains no reason to suppose that the Hsiung-nu were the major middlemen in the silk trade with the Roman Empire. Silk and other Chinese articles such as lacquers and mirrors did indeed move north and west across the steppe as far as Europe but probably not by commercial contact. The exchange and acquisition mechanisms of the steppe were tribute, gifts, raiding and some small-scale barter trade with neighbouring tribes. It is indeed true that in the post-Han period one may draw a distinction between political tribute and state commerce disguised as tribute[240], and that much later the Chinese government traded on a large scale with regions further west to obtain cavalry horses[241], but we may safely conclude that in the Han period almost all tribute was political and that the sporadic royal commercial missions such as those attested under Wu-ti had as their purpose only the acquisition of rare foreign exotic products intended to enhance imperial prestige and to entertain and titillate the court[242].

It is only by understanding the rise of steppe nomadism with its consequent increase in wealth and social differentiation leading to a demand for Chinese lacquers and silks as luxury items, which indicated the social status of the possessor, that we may dismiss many of the misconceptions surrounding the study of the early silk trade. The transformation to nomadism by sedentary agricultural and pastoral societies led to a far more effective economic utilization of the steppe lands. This and the related rise of the militarily superior horse-archer resulted in a great increase of wealth and social distinction among the tribes who practised this highly specialized form of economy. The consequence was a desire for luxury goods not available in the steppe to enhance the status of the warrior aristocrats. In the East and North Chinese goods filled that requirement. In the West the same role was played by Greek imports[243] and in Central Asia perhaps by Persian and Parthian goods[244]. These goods could be obtained in barter trade, payment for mercenary service, tribute, gifts, or by raiding. It is essential to remember in reference to the discovery of artifacts of foreign manufacture at any site that the objects themselves, particularly when small in number, tell us nothing about the means by which they were acquired[245]. Even if one supposes that organized commerce was involved, the artifacts seldom reveal the nationality of the merchants. Under such conditions it is preferable to interpret the movement of foreign objects in the light of what we can learn about the techniques of acquisition prevalent in nomad society.

The movement of goods in cultures for which we possess no literary or documentary evidence is a difficult and in part insoluble problem[246]. Rare natural products, such as lapis lazuli from Badakhshan, could make their way west to Egypt in the second millennium B. C.[247]. Passing from hand to hand by barter trade[248] such materials could move great distances and yet have minimal impact on the local economies through which they passed. Nor probably did the producers or even some of the 'middlemen' know the ultimate destination of the goods which passed through their hands[249]. The existence of organized long-distance commerce is in Antiquity an intermittent affair[250]. There is no reason to assume that efforts to organize the entire

Silk Route from Syria to China enjoyed any lasting success until the later political expansion of the Arabs and Mongols brought most of the regions involved under some sort of unified political control[251]. The same piece of silk might thus make its way west by a number of different means. Beginning as a gift or tribute to the Hsiung-nu, it came into the possession of the enterprising Sogdians[252], it then might have passed through the Parthian or Kuṣāṇa dominions until it finally ended up in the hands of the merchants of Palmyra, of whose commercial organization we have some knowledge.

Thus, a clearer understanding of the silk trade can only be gained by considering the social and political conditions prevailing in the lands through which the silk passed. Here more than anywhere else the historian must rid himself of modern conceptions and terminology.

II. Silk and the Imbalance of Trade

The analysis presented above necessitates a re-examination of other long-cherished beliefs about Roman trade with the Far East[253]. Not only did China not derive any overall material advantage from its export of large quantities of silk, since most of this was given away rather than sold, but also no effort was made to maintain a monopoly on silk production[254]. This mistaken belief has crept into many modern publications and seems to originate in the economic thought of eighteenth-century mercantilism[255]. It is also necessary to reject the view that the silk trade was dangerously detrimental to the Roman economy[256].

The surviving fragments of Han law contain a considerable amount of information about contraband materials which it was forbidden to export outside of the frontiers of the Empire. Chief among these were metals and weapons of war; silk was never included[257]. The myth of the Chinese silk monopoly has derived its support from a single piece of evidence. A tale told in Khotan in the sixth century to the Chinese Buddhist traveller Hsuan-tsang recounts how a Chinese princess, who had married a prince of Khotan, smuggled silk worms, eggs and mulberry seeds out past the barriers to her new home[258]. A wall-painting from Dan-Dan-Uiliq portrays a scene which may be from this story[259]. Both the painting and the actual events described have been variously dated[260]. More convincing alternatives to explain the scene on the painting have been suggested[261]. Against this we may set a number of other pieces of evidence. The explicit statement in the 'T'ai p'ing yu lan' that the Chin court made a gift of silkworms and mulberry trees to a Hsien-pi prince[262]; already in the second century B. C. Chinese immigrants brought silk culture to Korea[263]; a similar movement may well have brought sericulture to the Chinese colonies in the Tarim Basin at a slightly later date[264]; and in the third century an effort was made to teach the Hsiung-nu the basics of sericulture[265]. Archaeological evidence may also be cited. At both Niya River and Lou-lan, STEIN noted the remains of considerable cultivation of mulberry bushes[266]. This plant is not native to the region and apart from the early use of its bark in making a rudimentary form of paper[267], its primary application is to provide food for the domesticated silkworm[268]. There can thus be little doubt that in the Han period the production of domesticated silk spread westward into the Tarim Basin[269] and possibly beyond[270].

It is uncertain at what stage the production of silk from domesticated silkworms spread to India[271]. It has been supposed on the basis of references to 'Cīnāmśuka' in the 'Mahābhārata' and 'Arthaśāstra'[272] that not only did Chinese silk reach India through commercial channels by c. 300 B. C.[273], but also a wild type of silk was produced locally at a very early date[274]. The evidence for this is purely literary and in most cases the references mentioned above play a key role in dating these otherwise undated literary works. Almost all of these early texts contain interpolations from as late as the early centuries of the Christian era[275]. The earliest document referring to a domestic silk industry in India is an inscription from Mandasor of the Gupta period which mentions the repair of a temple by the silk weavers' guild[276]. After microscopic analysis of the fibres, at least one of the silk textiles found at Dura Europos has been judged to be of Indian origin[277].

The use and production of wild silk was known to geographically widely diverse areas of the ancient world. In this case the larvae are not cultivated or fed. They spin the cocoon and then chew their way out of it. The cocoons are then collected and unwound[278]. The domesticated silkworm is killed, either by scalding the cocoon or by the insertion of a needle, to insure that the thread remains undamaged from the efforts of the larvae to escape[279]. Wild silk is coarser and somewhat less expensive and is the product of a considerable variety of larvae of the sub-order *bombycina*[280]. It is to this class that the famous Coan silk of the ancient world belonged[281]. Such wild silk was produced in China and probably also in India, Central Asia and Mesopotamia[282]. How much, if any, was exported to the West is unknown[283].

Our literary sources shed little light on the nature of the textiles imported into the Roman world. A passage of Lucan has been cited to prove that thicker Chinese textiles were unravelled in the West and rewoven into thinner fabrics[284]. The acceptance of this hypothesis would confirm the suggestion made above about the indirect nature of the silk trade[285]. The Chinese themselves produce thin diaphanous material[286] and if the commercial contact with Rome had been direct, it would have been possible to fill the demand for lighter materials in the West without the necessity of reweaving. Silk thread[287], but almost certainly never cocoons[288], was also imported into the Mediterranean world, where it was used to weave textiles containing both silk and other materials[289]. The widespread use of garments exclusively made of silk appears to have been a rather late development[290].

An analysis of the ancient sources of silk thus confirms the view that Han China did not possess nor consciously strive to obtain a monopoly on the production of silk. China was not an ancient equivalent of the O. P. E. C..

The consequences of such a conclusion for the price of silk must be considered. As was pointed out above, much of the silk which was exported from China left that country gratis[291]. There is also a good deal of evidence for the price of silk in the Han period. It was stated by HIRTH that in Han China, as in the Roman Empire, a pound of silk was equivalent to a pound of gold[292]. Despite the obvious economic nonsense contained in this assertion it has been widely repeated and has gained acceptance in recent works on the subject[293]. Silk was the major raw material for the clothing of quite humble people in China[294]. In the 'Han Shu' one frequently finds mention of imperial decrees granting one or two rolls of silk to the widowers, widows, orphans and the aged of the Empire[296]. STEIN found a roll of finely woven silk bearing a Chinese inscription attesting to its width, length, weight and price[296]. The quantity involved was one *pi* of silk, slightly less than seven square yards[297]. The weight of this particular piece was the equivalent of fourteen ounces[298] and the price 618 cash. STEIN's roll consisted of finely woven, undyed silk. With about sixty different Chinese terms for grades of silk[299] one should expect a broad spectrum of prices. It is not inconceivable that the finest patterned or gauze material excavated in the tombs of the Han nobility around Ch'ang-an or Lo-yang may indeed have been worth its weight in gold[300]; but certainly most silk was not. The Han documents from the *limes*[301], which record payments in silk made to the troops of the garrison frequently give the monetary value of the silk rolls. Prices such as 1000 cash, 600 cash, 450 cash per *pi* occur[302]. There thus remain no grounds for the belief that silk was expensive in Rome because it was already very high-priced in China.

In fact, we possess no reliable evidence about the price of silk in the Roman Empire. The 'Vita Aureliani' in the 'Historia Augusta' in an anecdote designed to illustrate the austerity of the emperor notes that a pound of silk was worth a pound of gold[303]. The reference here, as in the 'Edict of Diocletian', is to purple-dyed silk[304]. Purple cloth, whether wool or silk, was usually exorbitantly priced[305] and one need not assume that the price of the silk, particularly that of lesser quality, was enormously high. That the fabric was expensive there is no doubt[300], but its light weight in part compensated for this. Even if one assumes that the price given in the 'Historia Augusta' was the correct one, four or five *aurei* would easily purchase a shift of precisely the sort of diaphanous material of which Rome's prostitutes were so fond[307]. Furthermore, it is not reasonable to argue, as some have done, that the price was as high as the figure discussed above and at the same time to state that the silk trade was on a massive scale. If one then combines this price information, as is frequently done[308], with the, to my mind, specious currency drain figures given by Pliny in the 'Naturalis Historia'[309], one may conclude that only a small handful of camels carried enough silk to supply the entire Roman Empire for a year[310]. All of these fake figures need to be dismissed[311]. They suggest an exactitude and precision not warranted by the evidence.

A number of facts suggest that silk was indeed expensive, but not exorbitantly so, and that its price was probably lower in the East than in Rome.

The Babylonian 'Talmud' quotes a relatively low price for silk, but no quantity is specified[312]. Incidental references in the 'Talmud' to commerce in silk[313] and the epigraphic evidence for its processing or sale at a considerable number of centres[314] suggest that the traffic in silk and its preparation for the market were of some importance in the commercial economy of the Roman East and Italy. This again suggests a rather lower price than a weight for weight equivalence with gold. Another clue has also gone unnoticed. During the late Republic and early Julio-Claudian period Coan silk, a type of wild silk, was very fashionable in Rome[315]. The latest reference we have to its use is in the Elder Pliny[316]. Is it possible that a cheaper import, Chinese silk, eventually drove an expensive local product, Coan silk, off the market?[317] This seems to me to be one possible explanation for the apparent cessation of silk weaving on Cos after five centuries of activity[318]. The entire upper class of the Empire, including wealthy municipal grandees, was never large[319], but the use of silk was not confined simply to the major cities of the Empire[320]. Silk has been found primarily at sites on the periphery of the Roman Empire: in graves at Antinoe[321], Achmim, and the cemetery of Panopolis[322] in Egypt, in the third-century tombs at Palmyra[323], in the excavations at Dura[324], in Sarmatian tombs in Kerch[325] and on the Volga[326], in a burial at Aquincum[327], in Bavaria[328] and in Kent[329]. Almost all of these finds are dated to the third and fourth centuries or, as in the case of Arsinoe[330], even later.

Apart from the areas of production and the price of silk it is necessary to deal with the numismatic evidence for the relationship between silk and the drain of wealth from the Roman Empire. Here, too, there has been much confusion. In the past various scholars have supported their arguments about the imbalance of Rome's trade with China by citing finds of Roman coins there[331]. Upon examination such evidence disintegrates. It is now recognized that the famous hoard of 16 bronze coins ranging from Tiberius to Aurelian and a single coin of Henri III of France and Bohemia found at Ling-shih hsien in Shansi was a missionary's coin collection[332]. Other references to Roman coin finds are more vague and unreliable[333]. The acquisitions list of one of STEIN's reports notes two late Roman gold pieces, one of Constantine, the other of Constans, but he mentions in his published 'personal narrative' that both of these had been purchased in Karghalik from a wandering Indian moneylender who had brought them from Bokhara[334]. The argument from silence is, however, not a strong one and an effort has been made to explain the absence of Roman gold in China[335]. DUBS suggested that during the monetary reforms of Wang Mang all gold coins, including Roman ones, were melted down[336]. This hypothesis is easily dismissed. Wang Mang's authority did not extend to large areas of China[337], and, more important, the usurper was a contemporary of Augustus and thus lived just at the beginning of the period during which the currency drain took place[338].

A consideration of the entire picture suggests that Chinese silk was not purchased directly by *denarii* and *aurei*. Coins were almost always placed in the grave of the deceased and a piece of jade or a gold or silver coin was placed in the mouth of the corpse[339]. This custom is well attested in China and the Tarim Basin from Han to T'ang times[340]. The excavations of many thousands of tombs from the Han period up to the sixth century in the last three decades has yielded no Roman coins[341]. Since China throughout this period possessed no regular indigenous gold and silver coinage[342], the different picture found in the sixth to eighth centuries reflects a change in the pattern of currency flow rather than of burial practices. In the later period Sasanian silver and Byzantine gold suddenly makes its appearance in China and in the Tarim Basin. Approximately one hundred Sasanian silver dinars have to date been found in excavations around Turfan and Sian[343]. The tombs of Sian, one of the T'ang capitals, have yielded two Byzantine coins, one of Justin II (A.D. 565—578)[344]. STEIN found three *solidi*, all barbarized imitations, in the mouths of corpses in the Astana cemetery near Turfan[345] and others were found by an earlier expedition at Yotkan in the Khotan oasis[346]. More recent excavations at Astana and Kara-khoja found two more *solidi*, again one an imitation[347], and a hoard found in the mansion of a relative of one of the T'ang emperors near Sian contained a *solidus* of Heraclius (A.D. 610—641) and a Sasanian silver dinar[348]. Literary references from T'ang sources confirm that foreign gold and silver coinage circulated at Kucha and possibly elsewhere in the Tarim Basin by the sixth century[349]. Byzantine coins have also been found in the Altai and in southern Siberia[350].

The barbarized imitations of *solidi* found in Sinkiang constitute particularly strong evidence for the circulation of Byzantine coinage in this area. Although not an infallible rule[351], it is frequently true that a foreign coinage is imitated only after it has circulated widely in a given area and if the original source of supply either is insufficient or has been cut off. The Turkish and Tibetan rulers of the Tarim Basin thus struck imitation *solidi* to meet local commercial and sepulchral needs when the supply of genuine Byzantine coins proved to be too small. Unique specimens of other types of imitations are occasionally found in the same region[352]. Usually of bronze, these bear both Chinese characters and a heavily barbarized Greek legend[353]. The Greek legend may have been imitated from Parthian coins and the date of these pieces is extremely uncertain[354].

It is ironic that Western gold coins begin to make their appearance in China after the domesticated silkworm was introduced into the Byzantine Empire[355] from 'Serinda'[356]. To some extent the two phenomena are not unrelated. Long distance commerce with the East enjoyed a renaissance in the early Byzantine period[357]. Private trade for Oriental luxuries with Sasanian Persia was rigidly restricted by edict and treaty[358], but the Byzantine government entered into direct diplomatic contact with the Turks[359]. Furthermore, large numbers of *solidi* were sent to the Sasanians as ransoms and indemnities[360]. As a result the Sasanians seldom coined in gold and when they did, it was on the Byzantine standard[361], since *solidi* circulated widely in Persia[362]. Sasanian mercenaries from among the Hephthalites and other Turkish peoples[363] were presumably paid in coin[364], and it is not impossible that the appearance of Byzantine *solidi* and Sasanian dinars in Central

Asia and China at this time is as much connected with such mercenary service, or even plunder from raids[365], as it is with peaceful commerce.

All of the foregoing evidence thus suggests that no substantial quantity of Roman coinage reached China in the Han period. Gold and silver in other forms, as ingots or plate, for example, leave little trace archaeologically. Nor were coins the obvious medium of exchange if a route across the steppe were in use[366]. Coinage was virtually unknown except as a curiosity among first the Scythians[367] and then the Sarmatians[368]. The economy of these steppe peoples was, in the regions remote from the Bosporan kingdom[369], virtually a marketless economy or a peripheral market economy based on barter rather than coin[370]. What few coins did penetrate this region were simple curiosities and not part of a large-scale currency drain from the Roman Empire[371]. Further west among the economically more advanced East Slavs of the Cherniakhov Culture[372] a partial monetary economy did come into existence in the early centuries of the Christian era[373] which relied for its medium of exchange on large numbers of imported Roman coins[374].

If the silk trade involved no documented exchange of coinage for silk, then perhaps something else was used. A great deal has been written about the large quantities of Roman manufactured material which have been found in China[375]. Much of this will not withstand detailed scrutiny. A considerable literature has grown up on the subject, much of it in need of revision[376]. On the basis of the tradition recorded in three Chinese dynastic histories, the 'Wei-shu,' 'Pei-shih' and 'Sung-shu', it was believed that glass production was introduced into China by traders from *Ta-Yüeh-chih*[377] (formerly the name of the Kuṣāṇa Empire — what it refers to at this time is uncertain[378]) early in the fifth century of the present era. Before that time all glass, even beads, was imported from the Roman Empire[379]. This theory declined in popularity with the discovery of glass beads, discs and fragments by BISHOP WHITE in excavations of tombs near Lo-yang, variously dated from the sixth century B.C. to the Han period[380]. SELIGMAN and BECK analysed these and found them rich in barium, a feature which at first was thought to distinguish Chinese glass from imported varieties[381]. Subsequent analysis of other specimens from the same site revealed that some of the glass lacked this chemical characteristic[382].

Relatively large quantities of glass of various types have been found in the Tarim Basin. BERGMAN, who published the results of SVEN HEDIN's expeditions into Eastern Turkestan, attributed all the glass, both beads and vessels, found by the expeditions in and around Lou-lan, Ying-p'an, Charchan and Karghalik, to Roman origins[383]. The three STEIN expeditions found glass at the Niya River site, Kara-Dong, Yotkan, Endere, Farhad-Beg-Yailakii, Kelpin, Cheng-Tim and ten other sites primarily along the so-called 'Southern Route'[384]. At some sites, such as Endere, glass was found in such profusion that STEIN, a believer in the import theory, had second thoughts about how so much glass could be brought overland from Rome[385].

Chronology provides the greatest problem. STEIN did not conduct careful scientific excavations. He primarily gathered material on or near the surface or cleared the ruins of dwellings and Buddhist *stupas*[386]. Some of the material collected at so-called 'Ta-ti' sites was found lying on the surface of the ground where the corrosive action of the wind-driven sand had removed all traces of buildings and more perishable materials[387]. Elsewhere, such as at Dan-Dan-Uiliq, where a Judaeo-Persian document of the eighth century was found[388], and Endere, which was occupied, judging from its coins, down to T'ang times[389], the terminus post quem for the abandonment of the site is sufficiently late to easily allow for the possibility of local production. The badly worn Han *wu-chu* coins found at other sites which yielded glass are of no chronological significance, since such coins circulated in China for centuries after they were issued[390]. The dating of sites by the artistic style of the textiles found there is equally inconclusive[391]. The date of abandonment of the settlements at Niya River and in the vicinity of Lou-lan is more precisely fixed to sometime in the fourth century both on the basis of the dates on Chinese documents from the site and references in the dynastic histories[392]. Both sites have yielded substantial quantities of glass of various types, cut, moulded, and blown, and in a wide range of colours[393].

The obvious difficulties of transporting fragile glass over long distances[394] has led archaeologists working on Roman sites in the West to point out that the excavation of large quantities of plain glassware at a site may be taken as an almost certain indication of local production[395]. The crude nature of some of the glassware found by STEIN and BERGMAN, as well as a single piece of glass slag from Lou-lan, would seem to suggest some sort of local production by the fourth century of our era[396]. Some of the vessels or fragments thereof exhibit better craftsmanship and higher standards of artistic achievement[397]. To account for the presence of such glass vessels another source unknown to STEIN or BERGMAN may be suggested. Excavations in Soviet Central Asia have in the last quarter century produced glass from over seventy sites[398] and evidence of a glass industry active at Termez from the first or second centuries[399]. From the sixth century onward the number of known glass-producing centres increases dramatically and includes Pendzhikent, Merv, Kanka and at least four other sites[400]. Samples of the glass produced in ancient Choresmia and Sogdiana have been chemically analysed and found to contain an unusually high percentage of potassium and manganic oxide[401]. A similar study of the glass fragments from the Tarim Basin may provide a clue, but not positive proof[402], of the origin of the glass published by STEIN and BERGMAN.

One may well wonder whether the oases of the Tarim sustained a population sufficiently wealthy to import luxury products from Rome. Khotan, Turfan, and Kucha must have contained wealthy aristocratic elements to judge from the rich artistic remains[403] and the lascivious reputation some of these cities had in Chinese court circles[404]. This is not the case at Lou-lan and Niya River. The Indianized aristocracy of the kingdom of Shan-shan or Kroraina has left considerable record of its wealth and activities in the hundreds of Kharoṣṭhī documents found at the two sites[405]. The results are not impressive. Despite the pretentious titles of the rulers of Shan-shan their wealth does not appear to have been great[406]. The economy was almost exclusively agricultural, based on the cultivation of grains and wine and on the herding of camels and horses[407]. The king himself seems to have possessed only a few score camels[408] and there are complaints that the royal court on at least one occasion ran out of wine[409]. A small aristocracy existed[410] but the increasing poverty of the kingdom mentioned in the Chinese sources suggests that there were few wealthy enough to pay for the exorbitant price of glass transported from Rome. Such considerations point to the conclusion that the large amounts of glass from these two sites were in general relatively inexpensive and brought from a manufacturing centre which was not very far removed from the Niya and Lou-lan find sites.

In contrast with the relative abundance of glass in Sinkiang is the almost complete lack of glass, even beads, from Central and Southern Chinese sites and tombs of the same period. Chinese aristocrats, who apparently treasured their imported glassware, would surely have taken some of it with them to the grave, as they did much else of value[411]. The few exceptions are mostly objects which appear to be of local manufacture[412]. Such Chinese glass production by the late third or early fourth century is also attested by a fragment of Ko Hung (c. A.D. 260—340)[413]. Clearly the dynastic historians mentioned earlier, secluded bureaucrats more interested in court intrigue than industrial processes, have committed some sort of error. The cause may be that the characters for crystal and glass and the objects themselves were frequently confused in the Chinese sources[414]. What the 'Pei-shih' may then refer to is simply the introduction of the manufacture of clear colourless glass into China[415].

Once China is recognized as a glass-producing centre in the Han period, it becomes possible to explain the presence of glass beads in South Siberian tombs at Pazyryk, Bystrianskoe, Tuiakhta and Bukturma[416] and in graves in the Pacific coastal region at Port Arthur[417] without hypothesizing early commercial contacts with the Mediterranean world. Korea, too, may have produced its own glass at an early stage[418], a fact which should cause no particular surprise, since part of the region was under Chinese control during much of the Han period[419]. The most important glass finds here have been made in tombs of the Silla period[420] and more recently in a pagoda at Songyimsa[421]. An early date for an indigenous glass industry in Eastern Asia also recommends itself from the very considerable antiquity of the process in Mesopotamia and Egypt[422]. This relatively elementary production technique soon spread to Iran[423] and it is difficult to believe that China and other areas of the Far East did not also master the requisite technology at an early stage. One must also beware of the fact that glass could be produced at one place and worked at an entirely different place[424].

A single glass vessel deserves separate treatment here. It has become, since Rostovtzeff discussed it[425], the primary exhibit of those who believe in the exclusive export of Hellenistic and Roman glass to China[426]. Reportedly found in a Chinese tomb in Honan province[427] it now constitutes no. 655 of the George Crofts Collection of the Royal Ontario Museum in

Toronto, where this author personally inspected the vessel in May 1975[428]. The vase is just over nine inches in height, has a broad, high shoulder sloping to a narrow mouth and foot, and has been painted to resemble bronze. About the widest part of the vessel is incised a broad meander pattern and three medallions each containing a Greek helmeted head, usually described as Athena[429]. Between the medallions are palmettes above and below the incised meander (Pls. I and II). The original publication of this piece in 1928 raised the possibility of a date as late as the T'ang period[430]. The production technique and documentary evidence now both indicate that the glass vase in question is not an ancient product at all. Vessels of this type were produced in Czechoslovakia and imported into the United States in c. 1880[431]. Another important piece of archaeological evidence for Roman trade with China thus vanishes.

If the evidence for any manner of material profit by the Chinese in the silk trade with the Roman Empire is slight, perhaps then it may be argued that all of the money disappeared into the hands of middlemen[432] — those seemingly omnipresent drones who allegedly contribute nothing to the value of the product, yet derive most of the profit from its sale. But here, fortunately, we are on firmer ground. No need to rely on Marxist theory, we have abundant evidence. Again there are surprises. The leading middlemen in the silk trade in the first three centuries of our era are the Sogdians and the Kuṣāṇas, who expanded in the third quarter of the first century into Northwest India[433]. From the 'Periplus of the Erythraean Sea' we know that silk was brought overland across Bactria through the Kuṣāṇa kingdom and down to Barbaricum and Barygaza, whence it was shipped to the Red Sea ports of Egypt[434]. Given the real shortage of evidence for the significance of the overland route through Parthia[435], it is reasonable to see the route via the Indian ports as perhaps the most important branch of the silk road[436]. The evidence for the silk trade in the ports of Northwest India permits us to put to the test the thesis that the extravagant use of silk by the Roman upper class drained the empire of gold[437].

Silk was exported from Barbaricum and Barygaza[438]. No Roman coins were imported into the former port, but *denarii* and *aurei* are mentioned among the imports to Barygaza[439]. Here a premium was to be had on the exchange for the native currency[440] (Indo-Bactrian, punch-marked silver and Indo-Parthian coins[441]) of the high quality pre-A. D. 64 *denarii* and *aurei*[442]. The number of Roman coins brought into this region was, however, not at all on the same scale as the import of coinage into the ports of Southern India. The literary evidence is confirmed by archaeological finds to date. Less than one percent of all of the *denarii* and *aurei* found in India have come from the Northwest[443]. Even when all other variables are taken into account, the number is exceedingly small. More significant is the fact that the Roman coins are almost always found in *stupa* deposits rather than in large hoards as in the South[444]. Since Buddhism in the Kuṣāṇa period spread throughout Central Asia and beyond[445], and since Buddhist monks frequently traversed enormous distances in their travels[446], there is no reason to see in these *stupa* deposits the remnants of East-West commerce[447]. The coins themselves suggest a similar conclusion. The hoards contain only Republican *denarii* and issues of M. Antonius, as well as second century *aurei*[448]. The Gaius and Lucius Caesar type of Augustus and the seated-figure type of Tiberius, which predominate in the South[449], are not well represented[450]. Both the location of the finds and the coin types they contain suggest that these are not remnants from commercial transactions[451].

Numismatists, aware of this lack of Roman coin finds in Northwest India, have proposed several explanations. It has long been argued that the abundant gold coinage of the Kuṣāṇas based its weight standard on the Roman *aureus*[452] and that the metal was obtained by melting down imported Roman coins[453]. The first assertion is probably incorrect, as was pointed out long ago by KENNEDY and more recently by MACDOWALL[454]. The second argument is more difficult. Such an explanation can only account for the disappearance of *aurei*, not *denarii*, since the Great Kuṣāṇa dynasty, despite assertions to the contrary[455], did not coin in silver[456]. Earlier Kuṣāṇa rulers in Bactria did, however, issue large numbers of silver coins[457]. What lies behind the view disputed here is the erroneous idea that India and Bactria had no native sources of gold and silver in antiquity[458] — a historical aberration which owes its popularity to the persuasive prose of W. W. TARN[459]. In fact, areas in or near the frontiers of the Kuṣāṇa Empire contained several ancient gold and silver mines[460]. A further consideration intrudes. The gold coinage of the Kuṣāṇas is not contemporary with, but rather subsequent to, the influx of Roman currency as attested in the 'Periplus' and the hoards of Southern India[461]. The Kuṣāṇas began to coin in gold in the reign of Vima Kadphises[462]. The Kuṣāṇa coinage, initially of high quality, circulated widely in Eastern and Central India well beyond the actual frontiers of the Kuṣāṇa Empire[463] and in a sense may have substituted for the previous imports of Roman coinage. No significant numbers of Kuṣāṇa gold coins, however, reached the West[464]. When the Kuṣāṇa Empire eventually declined, imitation Kuṣāṇa coins were struck in these peripheral regions[465] until the Guptas resumed the minting of a stable and acceptable currency[466].

It is also proposed that the short-lived Kṣaharāta and the Kṣatrapa dynasties of Western and Central India compelled Roman merchants to exchange their coinage in Barygaza for native currency[467] and that the Western coins were then melted down to produce the bullion for local coinage[468]. Neither dynasty, however, had a gold coinage[469]. As well, on methodological grounds the contribution to the solution of the problem by the chemical analysis of Kṣatrapa silver coins may be challenged[470]. The two known Kṣaharāta rulers, Bhūmaka and Nahapāna, struck a limited coinage in silver[471]. The Kṣatrapas struck a more extensive, but more severely debased, silver coinage, as well as many issues in lead and potin[472]. Above all, the objections to the theory are again chronological. The chronology of the Kṣatrapas is securely fixed[473]: they assumed control of Barygaza and the nearby coast in about A. D. 130[474]. The chronology of Nahapāna presents greater problems. He was a predecessor of the Kṣatrapas, but the exact dates of his rule are open to question[475]. If one wishes to equate him with the Mambanus in the 'Periplus' (chapter 41), as is frequently done[476] but is by no means philologically necessary[477], the Kṣaharāta dynasty is brought down into the middle of the first century[478]. On the basis of the present evidence the problem permits no entirely satisfactory solution. In the light of this uncertainty it is incorrect to argue that Nahapāna must be Mambanus and thus must furnish a date for the 'Periplus'[479]. If one chooses to identify the two names, then the 'Periplus' provides a date for Nahapāna/Mambanus, not the reverse[480].

Once the hypotheses, which seek to explain the scarcity of Roman coin finds in the Northwest in terms of a systematic melting-down of the imported Roman coins, have been dismissed, one is left with the conclusion that few coins are found in this part of India because few coins were imported[481]. The interior portions of the Kuṣāṇa Empire in Bactria and Central Asia have also yielded no significant numbers of Roman coins. Scattered finds at Khairabad Tepe[482], Leninabad[483], Alma-Ata[484], and other sites have been reported[485], but nothing on the scale of the hoards of South India. On the basis of the present evidence it may thus be argued that there was no serious imbalance in trade between Northwest India and Rome. But caution is advised. The presence of foreign coinage is only archaeologically the most visible manifestation of an imbalance of trade. Other areas with which the Roman Empire had an unfavourable balance of trade, notably Southern Arabia, have yielded almost no Roman coinage at all[486]. Also, bullion could easily be substituted for coinage in such transactions. Bearing in mind these presently incalculable factors, it may tentatively be suggested that the silk trade with China via Northwest India seems to have had no serious adverse financial effect on the Roman Empire.

The reason for this is not hard to find. The urban civilizations of this part of the world with their wealth and high level of culture provided excellent markets for imported Roman manufactured items, particularly luxury goods[487]. The marketability and acceptability of such luxuries and objets d'art was no doubt facilitated by the survival of traces of Greek culture both in Northwest India[488] and more particularly in Bactria[489], to which the Indian ports gave access. The late survival of such Hellenized taste, long doubted, has been attested by the French excavations at Aï Khanoum[490] and, more significantly, by discoveries in Soviet Central Asia of local imitations of Neo-Attic works of art[491]. These discoveries strengthen the case of those scholars who have preferred to see in the Gandhara art of the Kuṣāṇa period the survival of earlier Greek culture in Bactria[492] rather than the influence of imported Roman artifacts and craftsmen[493].

That the import of such luxuries increased in the Kuṣāṇa period is attested by both scattered finds throughout their empire[494] and by the great treasure find in the French excavations at Begram, ancient Kapisa, in 1937 and 1939. In two bricked-up rooms (nos. 10 and 13) a treasure trove of imported glass, ivories, sculpture, bronzes and lacquers was discovered[495]. Room 10 was found to contain plaques, statues, stools and coffers of ivory, platters and other receptacles of bronze, several alabaster vessels and large numbers of glass containers of various types[496]. Room 13 contained several bronze statues and platters as well as lacquers and a large number of glass vessels of various sorts[497]. The lacquers, which are in a very poor state of preservation, appear to be Chinese[498]. The ivory statues, plaques and coffers are of Indian workmanship, possibly from the ivory workshops of Mathura[499]. The bronzes, glass, alabaster vessels and steelyard weights are all of Mediterranean manufacture. While the statue of Harpocrates and the alabaster vessels may with some degree of certainty be traced back to Egypt[500], the question of the origin and date of the glass vessels is more controversial[501].

The Begram glass consists of several major types: millefiori bowls, painted vases and goblets, cut-glass goblets and *diatreta*[502]. The identification of the scene on one of the *diatreta* from Begram as the Pharos of Alexandria has suggested to some that all of the glass may be of Egyptian, specifically Alexandrian, origin[503]. Such a hypothesis is supported by finds in Egypt of vessels of similar shape and painted in the same style as several in the Begram hoard[504]. Others have pointed to the repertoire of motifs portrayed: a battle of Alexander, gladiatorial combat, the duel of Hector and Achilles, and hunting scenes[505]. The attribution is attractive, a confirmation of Alexandria's renown as industrial and commercial capital of the Mediterranean[506], but not entirely convincing. The Egyptian city itself has been little excavated and to date has yielded few traces of industrial production[507]. The assumption that much of the fine bronze and glass bearing oriental motifs found in areas ranging from Germany to North Africa was produced in the Egyptian capital is simply that, an assumption[508]. The attribution is supported by ancient literary evidence for Alexandria's industrial productivity[509], but a sufficient amount of comparable material from the site itself is still lacking[510]. The attribution of at least some of the glass in the Begram hoard to Syrian workshops must thus remain a possibility[511]. There is also abundant evidence of industrial production of various sorts elsewhere in Egypt[512].

The glass and other material in the Begram hoard is not of uniform date. So much is certain[513]. Estimates of dates based on stylistic criteria for the Mediterranean imports range from the first century B. C. to the fourth century of our era for the various (frequently for the same) glass vessels in the hoard[514]. It was argued that the Chinese lacquers may also be accurately dated[515], but without any dated inscriptions on them such precision is entirely misleading[516]. The French excavators have sought to determine the date archaeologically. The second level at the Begram site is, to judge from the coins excavated, that of the dynasty of Kaniṣka[517]. The 'palace' is dated to the same period and the two sealed rooms which housed the treasure also contained coins ranging from Kaniṣka to Vāsudeva I — the first and last rulers of the dynasty[518]. GHIRSHMAN argued that the city of the second level shows signs of violent destruction and appears to have been abandoned for some time[519]. This, combined with the remnants of 'Sasanian influenced' pottery and coins of the Later Kuṣāṇas, led him to conclude that the treasure was buried at the time of the Sasanian conquest of the Kuṣāṇas[520]. Ghirshman's conclusions have been challenged[521] and it is difficult to find a date which is acceptable for both the dynasty of Kaniṣka and the glassware in the hoard[522]. The *diatreta* pose particular problems. Dated examples of this type of glassware in the West[523] and literary evidence[524] to date confine this technique to the late third and fourth centuries.

The evidence discussed above all tends to suggest that silk, as far as can at present be determined, was not purchased from China or India by a great outpouring of Roman treasure. Only one piece of evidence remains to be considered. The figures given by Pliny for the drain of currency from the Roman Empire[525] assume some importance here, since they are sometimes understood to refer to the export of coins to China and India[526] at some time before A. D. 77 when the 'Naturalis Historia' was completed[527]. Seldom treated with scepticism[528] and rarely rejected[529], they are the longtime snare of the gullible and innocent who write much of Pliny's intimate knowledge of such matters derived from his position as 'financial advisor' to Vespasian[530]. The first is an error, the second a misunderstanding. The biographical details are not encouraging. Personal knowledge of Eastern affairs he did not have. The Aradus inscription honouring a . . .] ίνιον Σεκοῦν [δον does not, as Mommsen supposed[531], refer to the author of the 'Naturalis Historia'. Münzer long ago pointed this out and most, but unfortunately not all, scholars of good sense have followed him[532]. Pliny's military experience was confined to the West: Germania Inferior and Superior[533]. A period of private life from A. D. 59 to the end of the Civil War is followed by procuratorships under Vespasian: Gallia Narbonensis, Africa, Tarraconensis and Belgica are suggested[534]. Thus for the West autopsy may reasonably be assumed to be the source of much that is found in the 'Naturalis Historia'[535]. Financial experience is inherent in the office of procurator[536] but Pliny seems never to have attained the high civil post in Rome to which his tenure in Belgica should have entitled him[537]. A friend of Vespasian, he died as commander of the fleet at Misenum — an important post, but military rather than financial[538]. There is nothing here which suggests a personal acquaintance with the financial affairs of the East or with matters of high finance in the Empire in general[539]. Vespasian may have shown a particular interest in the welfare and development of Syria, a region where he had personal experience[540], but there is nothing to indicate that he was concerned about the drain of currency to the East[541]. In fact, apart from a rather vague allusion in a letter of Tiberius cited by Tacitus[542] — and even here the main thrust is toward sumptuary controls rather than a concern with a currency drain[543] — there is no evidence that the imperial government ever expressed concern with the haemorrhage of precious metals to the East.

Personal acquaintance with others who had held high posts in the East may be suggested as a source[544]. Most noteworthy among these is a prominent senator, C. Licinius Mucianus, a patron of Pliny, legate of Corbulo in Armenia, governor of Lycia-Pamphylia, governor of Syria in A.D. 67—69, and a leading advisor of Vespasian[545]. Mucianus' writings were a major source for Pliny, but the fragments reflect a passion for *curiosa* and *mirabilia*, not financial and administrative details[546]. Personal experience and acquaintances thus appear unlikely as the source of Pliny's figures. Nor does our author's careless and frequently uncritical acceptance and combination of literary sources inspire confidence[547].

Another more serious objection may be raised. From Egypt, where tax records were perhaps more carefully kept than in other provinces, we possess a good deal of evidence about transit tolls, accounting practices and customs regulations[548]. As one might expect when the same duty is charged on both import and export, the destination or origin of the merchandise, or whether, in fact, it was coming in or going out, is not always stated on either the tax receipts or the custom house accounts[549]. Whether duties were fixed or paid *ad valorem*[550], the value of the merchandise is never specified[551]. One further important fact must be considered. Despite the lists of dutiable items subject to various transit tolls, tariffs, and *portoria* which we possess in literary sources, papyri, inscriptions, and in the 'Digest'[552], nowhere is there any indication that a tax was placed on the export or import of coin[553]. Every traveller, including those who belonged to various tax-exempt groups[554], was compelled to make a declaration to the customs' collectors[555]. The *publicani* and τελῶναι had extensive rights of search of baggage, vessels, and persons[556], and apparently in some cases pursued their task with excessive zeal[557]. Even this may not have been sufficient. Informers were encouraged to betray smugglers by the offer of a portion of the illicit goods[558]. There are, however, no known provisions against the export of gold (and silver) coinage or bullion until the fourth century in the later Roman Empire[559], when foreign commerce was far more under governmental control than at any time before Diocletian[560]. There is thus no reason to assume that anyone kept a record of the export and import of coinage. Bullion, particularly in the form of gold and silver vessels or works of art or even ingots, may well have been a different matter[561].

The accounts of receipts and operating expenses kept by the tax farmers may eventually have passed into government hands[562]. In Egypt the Romans largely adopted the Ptolemaic system of tax farming which they found in existence[563] and continued the close and rigid supervision of the τελῶναι[564]. The purchaser of the tax contract was personally liable with his property for the fulfillment of the contract[565] and the state audited his account[566]. It is reasonable to assume that this also occurred in the case of the duties charged at the frontiers[567] and that records of the net receipts from various ports were available in Alexandria[568]. The contents of these records, if they existed, would, however, yield no information about the relationship of the volume of imports to exports and thus about the balance of payment[569]. Certainly some figures for the annual total yield of a tax, like the *vectigal Maris Rubri*, would have been available somewhere, since the *societas* or individual who bid for the contract must have had some notion of the potential revenue[570].

The potentially available archival material may have been even more difficult to obtain for the Eastern frontier. The caravan routes through the Nabataean kingdom from either Southern Arabia or Leuce Come entered the Roman Empire at Gaza[571], since 4 B.C. an autonomous city in the province of Syria[572]. Here a tax of 25% was levied on imports and presumably also on exports[573]. This tax was farmed locally by τελῶναι and was, one assumes, in keeping with the general Ptolemaic administrative practice still prevalent in this region in the Augustan period, closely supervised[574]. Elsewhere along this lengthy frontier the situation was more complex. A major communications route ran from Petra to Philadelphia in the Decapolis and from there two roads crossed the Jordan into the province of Syria[575]. At this frontier too customs officials were stationed[576]. Further north a number of routes crossed the Upper Jordan into Galilee from the Damascus-Petra road[577]. These may have assumed increased commercial importance after the middle of the first century, when the economic focus of the Nabataean state appears to have shifted gradually northwards to the vicinity of Bostra[578]. The frontier of Northern Syria formed more of a single unit. Palmyra, an autonomous municipality, in the Empire[579] had the right to collect a wide range of municipal taxes including tolls on the passage of goods[580]. The famous bilingual tariff inscription furnishes us with a sampling of the items subject to these municipal duties[581]. The customs stations at the Euphrates were in the hands of the provincial *fiscus*, which farmed them out[582], and Roman officials also supervised the levy of the municipal tolls at Palmyra[583]. It is to one of the several crossings of the Euphrates that the humorous story, told by Philostratus in his fictional biography[584] of Apollonius of Tyana about the sage's encounter with the tax collector, relates[585].

Further north, until the incorporation of the vassal state of Commagene within the bounds of the Roman Empire in A.D. 72[586] — the earlier annexation of A.D. 17 had been purely transitory[587] — export and import duties must have been levied on this frontier also in the provinces of Cappadocia and Cilicia[588]. Since a major caravan route to the East is thought to have run through Samosata[589], the tariffs on this route were probably by no means insignificant. Further north still other routes went East through Armenia[590].

All told we have in Pliny's day at least a dozen tax points in three provinces. Even if we suppose that at all of them records were as carefully kept as in Egypt — not necessarily a valid assumption[591] — it is extremely doubtful if any branch of the imperial government then computed the total derived from a single tax in Egypt and along the entire Eastern frontier[592]. In fact, although records were kept in Egypt itself of the revenues derived from various taxes, the provincial surplus was no doubt sent on to the imperial capital as a lump sum[593]. Thus, both Roman bureaucratic practice and the surviving records from Egypt itself indicate that it would have been impossible for the Elder Pliny to obtain any accurate figures for the annual quantity of the balance of payments deficit in Rome's trade with the East.

What has long been regarded by many as unimpeachable statistical evidence thus disappears. It is not my purpose to deny that Rome had an adverse balance of trade with India, as will be shown below, but merely to indicate that we have no way of calculating its approximate size. Pliny's figures are thus also not reliable as to their geographic division, to the Seres, to India, and to Arabia[594]. With that realization the last piece of evidence for a connection between the silk trade and the imbalance of payments disappears. Rome did indeed have a trade deficit, but there is very little reason to believe that this was connected with the silk trade.

III. The Middlemen

A most delicate subject this, and one which calls forth liberal and Marxist scholars' deepest economic prejudices. It is accepted doctrine that the middlemen were the villains in Rome's Eastern trade[595]. Simple drones who contributed nothing to the value of the product, they used their geographic position to sap the financial strength of the Roman Empire and by the products they sold they corrupted the morals of its nobility[596]. This picture bears little resemblance to the evidence.

Private Chinese commerce in the Han period appears not to have been a significant factor in foreign trade[597]. The merchants' biographies in the Han histories reveal that there were wealthy merchants, but that these were almost exclusively interested in internal trade and industry[598]. Men who traded across the Chinese frontier regularly are not mentioned[599]. Such commerce, where it existed, was probably in the hands of men of small wealth and little social or political influence[600].

Commercial occupations were traditionally looked down upon. Confucianism glorified the productive agricultural labour of the peasant and condemned commerce as non-productive[601]. The government relied for its revenues on the products of the land[602] and did not levy taxes at customs barriers[603]. Merchants belonged to the lowest social orders, were heavily taxed, were among the first called upon for labour services and the military draft, and were forbidden to display certain symbols of rank and prestige and to move into positions in the ruling bureaucracy[604]. Although such regulations were not rigidly enforced by every emperor[605], their existence did serve to discourage the growth of mercantile endeavour[606]. While the primary aim of the state was to assure a stable and contented peasant population, which, when carefully registered and controlled, provided regular surplus income by taxation in kind[607], the government did occasionally intervene in industries such as salt and iron to create imperial monopolies to the detriment of private entrepreneurs[608]. It is only in the T'ang period (A.D. 618—907) that an enormous expansion in private commerce occurs and an accompanying change in government policies and attitudes towards commercial activity and the merchant community[609].

Chinese commerce in the Han period was also hindered by a lack of credit institutions[610] as well as government competition. The major market for imported luxuries was the imperial capital and the court[611], but the emperor frequently obtained foreign merchandise as 'tribute' or gifts from non-Chinese peoples or rulers who received in exchange silk from imperial workshops[612]. The second and third centuries were also characterized by a great movement of population from north to south in China[613], which further discouraged Chinese commerce on the Northwest frontier.

We possess little evidence for the role of commerce in such important frontier towns as T'un-huang[614]. The large amount of documentary evidence from that town indicates a very substantial Chinese population, but merchants are not prominent in the social structure[615]. There is a slight tendency toward a more upwardly mobile society than in China proper, but the town's gentry consisted of families who pursued military and administrative, rather than commercial, careers[616]. At the 'barriers' careful records were kept of the name, rank, physical description, and frequently the profession of all those who passed in or out[617]. In addition passports were required before a traveller was permitted to exit from China[618]. A random sample of this documentary material from the T'un-huang and Chü-yen *limes* indicates that almost all of the traffic consisted of soldiers, officers, administrators, and bureaucrats, and a few settlers and perhaps the occasional pedlar[619]. Of great caravans of Chinese or foreign merchants we find no trace until a later period[620].

The Indianized states of the Southern Route from Lou-lan to Khotan have also yielded a quantity of documentary materials from which we may judge their role as middlemen in the silk trade[621]. Most of the Kharoṣṭhī documents are administrative and shed a good deal of light on some aspects of the economy of the region[622]. Irrigation, agriculture and the herding of camels, horses, sheep, and cattle formed the economic base of these oases kingdoms[623]. Taxes were collected in kind[624] and many payments to soldiers and administrators are made in the same way[625]. Life was relatively insecure with a constant threat to life and property from brigands and marauding nomads[626]. The native gentry were, to judge from the documents, major consumers of silk cloth[627], some of which at least was imported from China[628]. As at T'un-huang, the evidence for large-scale commerce in silk in these oasis cities is lacking[629]. Many of our documents deal with traffic at a bridge on the Niya River on the road to Khotan, but again the traffic consists of soldiers and men on official business, not of merchants[630].

On the overland route from China the Sogdians are the most well-attested middlemen. Located on the great natural trade route which stretched from Mesopotamia to Kansu[631], the Sogdians early became engaged in trade with China. Sogdiana was agriculturally prosperous[632] and from the third century B. C. onwards developed an indigenous silver coinage initially modelled on that of its Bactrian neighbours[633]. However, to judge from the coins, the political power structure of the region was exceedingly fragmented[634].

The Sogdians settled in Northwest China and in the major cities of Central China. Individual Sogdians or enclaves of up to one hundred men are in the late second century[635] attested for Li-yang, T'un-huang, Ku-tsang, Kin-ch'eng, and Lo-yang[636]. But from the Sogdian letters one is left with the impression that the purpose of many of these traders was not to organise the shipment of goods out of China to Samarkand. The famous Sogdian letters found by STEIN in a tower along the T'un-huang *limes*[637] may not, of course, provide us with a typical picture, but from these documents it appears that wealthy Sogdians lent money to some of their dependents[638], who then journeyed to China and became traders and pedlars. Although they may occasionally have sent articles such as silk cloth to the West, their main activity was local trade in or on the frontiers of China[639].

The Kuṣāṇas are frequently described as middlemen par excellence: a giant empire whose wealth was based on the silk trade[640]. Theories about the relationship of Kuṣāṇa gold coinage to Roman *aurei* have been discussed above and largely dismissed[641]. In fact, the very chronology of the Kuṣāṇa Empire is insecure and the date of the initial year of Kaniṣka is one of the most vexing problems in the history of ancient Asia. At the turn of the century two dates were considered to be possible: 58 B. C.[642], the first year of the Vikrama Era[643], and A.D. 78[644], the first year of the Saka Era[645]. Moreover, the order in which the first two dynasties followed each other was deemed by some to be the reverse of that presently accepted[646]. The argument eventually settled down to a choice between A.D. 78[647] and a series of early second century dates: A.D. 128[648], 134[649], and 144[650]. Within the past decade and a half the controversy has again increased in vigour with the convening of two international conferences on Kaniṣka and the Kuṣāṇas, the first in London in 1961 and the second in Dushanbe in 1968[651]. The A.D. 78 date has gained new advocates in recent years[652] and many Indian scholars have favoured an early second century date[653], while the A.D. 144 date of GHIRSHMAN has come under attack[654]. What is important in all this for the study of Roman trade with the East is the reappearance of an old heresy: the third-century date of Kaniṣka[655]. The variant versions have been put forward by ALTHEIM, GÖBL and ZEIMAL[656]. The first may be easily eliminated. ALTHEIM's date of A.D. 215 is based on a date of c. A.D. 210 for the composition of the 'Periplus'[657], an aberration dreamed up by PIRENNE and staunchly but ineptly defended by ALTHEIM[658]. The A.D. 215 date is self-contradictory and is on the basis of the numismatic evidence and the Chinese sources demonstrably wrong[659]. GÖBL's date of 250 and ZEIMAL's of 278 are derived from a comparison of certain reverse types on Kuṣāṇa coins with comparable material from the Roman Empire[660]. Two types are crucial. The first is an early issue of Vima Kadphises with the king in a *biga* on the reverse[661]. By a comparison with the triumphal *quadriga* on the posthumous *aurei* of Trajan[662] a terminus post quem of A.D. 117 is gained for Vima Kadphises[663]. A far closer model may be found on the round silver *didrachms* and both the round and square *hemidrachms* of Maues[664], who struck coins only in Northwest India[665] and whose issues were still in circulation in the early Kuṣāṇa period[666]. The second reverse type is a standing figure of Serapis and the legend ΣΑΡΑΠΟ on a *stater* of Huviṣka[667]. GÖBL's terminus post quem of A.D. 126—127 is based on the belief that a standing figure of Serapis first appeared on Alexandrian tetradrachms in this year[668]. In fact, earlier examples of the year A.D. 75/76 exist[669]. More serious is GÖBL's error in attempting to trace the origins of Kuṣāṇa coin types to Alexandrian tetradrachms[670]. This heavily debased silver was not used in international commerce[671]. A few examples have been found in Ceylon[672] and more frequently in East Africa[673], but they are virtually unknown on the Indian subcontinent[674]. The possibility that early Kuṣāṇa coins imitated some Roman imperial obverse types still exists[675], but GÖBL's views on the imitation of the products of the Alexandrian mint may be dismissed. The same judgement must be passed on his use of the '*Mischmedaillon*' with types taken from coins of Constantine and Huviṣka[676]. Since it is only the numismatic evidence which gave any basis to the third-century date of Kaniṣka, we may return again to a second-century date as the most likely possibility[677].

The geographical extent of the Kuṣāṇa Empire is also in dispute. Since coin hoards are an imprecise index of political and territorial expansion, it is uncertain how much of Eastern India[678] or Central Asia[679] was under Kuṣāṇa control. At least as a working hypothesis it may be supposed that the Kuṣāṇas at some time late in the second century asserted control over the Tarim Basin as far east as Lou-lan[680]. The Chinese sources are silent on the matter[681], but it is difficult to explain the use of Northwest Prakrit and the Kharoṣṭhī script at Niya and Lou-lan in any other way[682]. The striking of copper coins with mixed Chinese and Kharoṣṭhī legends in the western Tarim Basin may also be connected with this event[683]. Although Indian settlers may have penetrated the region considerably earlier[684], the evidence is unreliable on this matter[685]; it is only by hypothesising a Kuṣāṇa occupation that we can explain the imposition of the bureaucratic language and script of Northwest India on the region[686]. As elsewhere in the Kuṣāṇa dominions[687], Buddhism also made significant advances[688]. It is from this direction that the religion first had a significant impact on China[689]. Whether such Kuṣāṇa territorial expansion was connected with the commerce of this region is purely a matter of conjecture[690]. The only recorded Kuṣāṇa attempt to penetrate into the Tarim is linked with dynastic politics[691].

The period of Great Kuṣāṇa rule, the second and early third century, was apparently one of considerable prosperity in Northwest India[692] and Central Asia[693]. It is still uncertain if the end of this period of prosperity coincided with the destruction of the dynasty of Kaniṣka[694] by the new Sasanian Empire under either Ardashir or Shapur I[695] — the evidence does not enable us to distinguish clearly which of the two was responsible[696]. The question is, was this period of prosperity the result of long distance commerce in Oriental luxuries ?[697]. The answer seems to be negative. Like the oases of the Tarim Basin[698] the cities of Central Asia had for centuries relied for their prosperity on irrigation agriculture[699]. This alone easily explains the wealth and prosperity of this region without assuming an economy based on trade[700]. The two are on the other hand not entirely unconnected. The opulence of these Central Asian centres is almost certain to have attracted foreign merchants as well as luxury goods from both East and West[701]. Even the distinctive art of the Tarim with its mixture of Iranian, Indian and Graeco-Roman motifs[702] can be explained without recourse to theories about the importance of commerce[703]. Western craftsmen may have penetrated the area with the coming of the Kuṣāṇas[704], but most of the Graeco-Roman motifs appeared already in Gandhara art[705] and are probably not the product of direct contact[706]. The famous sealings with Athena Alkidemos found by the Stein expeditions[707] also arrived in the same way: the property of Indianized aristocrats[708]; the device was copied from a popular Bactrian and Indo-Greek coin type[709]. Nothing connects these intriguing objects with either Roman merchants or commerce[710]. In the fourth and fifth centuries the chaos and warfare in this region led to a diminished level of wealth and culture[711] and this may have had some impact on the luxury trade[712].

More popular in the role of villanous middlemen are the Parthians[713]. The ethnic term itself is misleading. Originally a nomad people[714], they gradually conquered parts of Bactria and much of Persia and Mesopotamia[715]. It is important to remember that in the late second and early first centuries B. C. the Parthian Empire reached its greatest geographic extent and centralization under Mithridates II[716], but during the Roman imperial period Parthia was seldom a coherent political unit[717]. The great vassal kingdoms such as Characene[718], Persis[719], Elymais[720], Susiana[721], Adiabene[722] and Hatra[723] appear to have been largely independent and to have conducted their own foreign relations with the Roman Empire[724]. Rome became the traditional supporter of Parthian pretenders or disaffected client states[725]. Even if they had wanted to, the Parthian kings did not possess sufficient control over their empire to embrace a consistent commercial policy[726]. The myth of Parthian military superiority, born at Carrhae[727], gave Parthia no economic leverage. The Roman army soon learned to cope with the heavy cavalry and horse-archers of the Parthians[728] and Rome was usually militarily victorious in the wars of the first and second centuries[729].

Given the lack of political cohesion and the military and dynastic weakness of the Parthian Empire[730] it is difficult to understand how any sort of commercial monopoly or embargo was enforced to the exclusion of Roman citizens. It is argued that the 'Parthians' deliberately monopolized the silk trade and derived enormous profit from their role as the middlemen between Rome and China[731]. The picture of a Roman Empire bled white financially by its strongest enemy may be pleasing to the moralist[732] but does not correspond to the known facts. The only evidence for such a Parthian effort to exclude Roman commerce is a short passage in 'Hou Han-shu', 88: "Their kings [of the Romans] always desired to send embassies to China but the An-hsi [Parthians] wished to carry on trade with them in Chinese silks, and it is for this reason that they were cut off from communication"[733]. The 'Hou Han-shu' was written in the fifth century[734]. Some sinologists have questioned to what extent documentary evidence was available to Fan Ye from the Later Han period[735]. Anachronisms in the description of the Western Regions have been noted[736] and it is possible, if we wish to give any credence whatsoever to this text, that the situation referred to is that of the fourth and fifth centuries onward, when the Sasanians greatly restricted Roman movement across their frontiers[737]. Against this we may set the contemporary first-hand information of the 'Periplus': Chinese silk was exported to Rome by way of both Northwest India and the South Indian ports[738]. There thus existed no Parthian monopoly on the product[739]. While alternative routes and sources of supply existed, the price could not be raised indefinitely.

A considerable body of evidence also exists which indicates that the Parthian frontier was not closed to travellers and merchants from the Roman Empire. Once across the Euphrates there would have been little possibility of checking their eastward penetration. The caravan inscriptions of Palmyra indicate that the merchants of this Roman city with their armed escorts regularly crossed into Parthia[740]. The Jewish communities of Babylon and Adiabene were in regular touch with Palestine[741], as were the Christian communities east of the Euphrates[742]. In fact, the evidence for the flow of traffic across the Roman-Parthian frontier is far more abundant[743] than for any other frontier of the Roman Empire[744]. The flow was equally heavy in the other direction and we possess many references to visits by residents of Mesopotamia, particularly Jews, to Syria and Palestine[745].

It is said that a high tariff was charged at the frontier for the enrichment of the Parthian king[746]. We possess no evidence about this[747]. What little we know about Parthian frontier administration we learn from Dura Papyrus 20 of A.D. 121[748]. Whether or not travellers going into Parthia were stopped and examined, and, if so, by whom, are still matters for conjecture[749]. Analogy and parallels may be of some assistance here. Throughout the ancient world from China, India, Arabia, and Mesopotamia[750] to Greece and Rome[751] the movement of foreign merchants or travellers was considered a legitimate area for governmental, municipal or imperial, interference and regulation. One may perhaps assume that, like many other administrative institutions[752], the early philhellenic Parthian monarchs[753] probably simply took over the existing Seleucid taxes[754]. In which case it may be taken for granted that commerce bound up or down the valley of the Euphrates still paid customs duties[755] as well as various tolls at each major town[756].

The great cities of Mesopotamia, although politically under Parthian control, were economically within the ambit of the Eastern Mediterranean[757]. Much of the coinage in circulation in Parthian Dura[758] and in some Mesopotamian cities[759] was struck at the mint in Antioch — debased Syrian tetradrachms, not imperial coinage[760] — and the Jewish merchants of these cities were in close contact with their co-religionists in Roman Palestine[761].

The cultural dominance of the Roman Empire was perhaps as important as its political dominance for the commerce of this region. Throughout the Parthian empire and on its periphery, beginning with the Parthian court itself, a significant portion of the urban and aristocratic population still retained a recognizably Hellenized culture[762]. Even if this was only a superficial veneer, it is discernible from Iberia in the West[763] to Kandahar in the East by the traces of western names and the Greek language[764]. This may well have created a market for the products of the Eastern Mediterranean (or the partly Hellenized cities of Mesopotamia), such as glassware[765], fine wines[766], perfumes[767], and works of art[768]. At the moment we still possess little evidence with which to confirm or refute this suggestion, but new excavations in Afghanistan and Iran may well produce the answers in the decades ahead[769].

The search for the elusive middlemen in Rome's oriental trade is a strange phenomenon. We have long known their identity. The men who conducted most of the known trade with the East and who derived the greatest financial benefit were not obscure Parthian or Kuṣāṇa merchant princes, but rather the subjects of the Roman Empire itself[770]. Fluent in the two major languages of Eastern commerce, Greek and Aramaic[771], possessed of the financial and contractual facilities which made credit operations possible[772], and aided by that governmental policy which is most conducive to the conduct of business, peace and benign neglect[773], these men dominated Rome's commerce with the Far East.

Palmyra is the most well-documented commercial centre of Rome's eastern frontier[774]. The city was at the latest by the time of Tiberius an autonomous city in the Roman Empire[775]. Pliny's statement to the contrary, which is still given in evidence by a misguided few, is based on antiquated information[776]. The great entrepreneurs of Palmyra, whose wealth and power was based on both pastoralism[777] and agriculture[778] as well as commerce[779], led caravans across the frontier to Vologesias[780] and to Spasinou Charax[781]. In both these cities[782], at Susa[783], and on the island of Kharg[784] the Palmyrenes possessed commercial enclaves. These same merchants sailed by sea to the ports of Northwest India[785] and possibly penetrated to the East as far as Margiana[786]. In the other direction Palmyrene merchants sent their caravans into Egypt[787] and from Coptos participated in the commerce of the Red Sea[788]. Although Palmyra was an autonomous city in the Roman Empire and became a Roman colony under Septimius Severus[789], it retained a force of militia under municipal commanders to police its very substantial territory[790].

Epigraphic evidence now also attests links between Hatra, a Roman ally in the third century[791], and the head of the Persian Gulf[792]. The Jews of both Mesopotamia and Syria played an important role in the silk trade. The evidence here is incidental references in the 'Talmud'[793]. The cities of Phoenicia and Palestine were the chief silk-processing centres of the Roman Empire[794]. The Syrian Greeks were equally active. One of these was the famous Maes Titianus, possibly a freedman of M. Titius, the Augustan governor of Syria[795], whose agents penetrated to the frontiers of China[796].

Within the Roman Empire itself it was these same oriental Greeks who played a leading part in the distribution of such products as spices and perfumes[797]. Enclaves of merchants from Alexandria and the Levant are attested in Puteoli[798], Ostia[799] and other cities[800].

Egypt, like Syria, played a significant role in the commerce with the Orient. We know the names of a good many of the merchants who shipped their goods from Coptos to the Red Sea ports of Myos Hormos and Berenice from the surviving receipts of the transport business of the καμηλοτρόφος Nicanor and his family[801]. Most bear Greek or Roman names[802], the latter not necessarily a secure index of citizenship[803], and with one notable exception they appear to be non-entities[804]. Μάρκος Ἰούλιος Ἀλέξανδρος mentioned in several of the ostraca[805] is almost certainly the second son of the arabarch[806] and brother of the Prefect of Egypt, Tiberius Iulius Alexander[807]. The interesting combination of commerce with an important bureaucratic task may also be found in Annius Plocamus *qui Maris Rubri vectigal a fisco redemerat*[808]. The Elder Pliny recounts a sailor's yarn about the fate of a freedman of this tax-farmer, who, while sailing *circa Arabiam*, was blown off course to Ceylon[809]. Despite the apparent distortions in the tale[810], something may be salvaged. Since the *vectigal Maris Rubri* was levied in the ports of Roman Egypt[811], it is difficult to explain why a freedman of the *redemptor* should be sailing around Arabia[812]. One solution proposed is that the freedman was engaged in some sort of commercial venture[813]. The discovery of a bilingual graffito written by a freedman of P. Annius Plocamus and dated to A.D. 6 has raised doubts about the chronology of Pliny's story[814]. Admittedly prone though Pliny is to all manner of distortion and error, it is possible equally well to explain the chronological inconsistencies by supposing two successive generations of Annii Plocami active in Egypt[815]. It has, moreover, not been noted that we know a little more about this individual. The *cognomen* is both rare and Greek[816], the latter being a hint of Campanian origins. One branch of the Annii were among the *domi nobiles* of Puteoli[817], a port actively engaged in the commerce in oriental luxuries[818], and an inscription from there mentions a freedman of P. Annius Plocamus[819].

The merchants of Palmyra were also active in Egypt[820]. One group resident in Coptos was engaged in the commerce of the Red Sea and thus by implication possibly also with India and East Africa[821]. Others used the overland route from Mesopotamia to Denderah in Egypt[822].

Alexandria was reputed to be the major market and distribution centre for the trade with the Far East[823]. The reputation is justified but should not detract from the apparent importance of Coptos. From Strabo to Aristides this city of Upper Egypt was the major entrepôt directly in touch with the India trade[824]. The Palmyrene ναύκληροι Ἐρυθριακοί[825], Nicanor the καμηλοτρόφος[826] and merchants from Alexandria engaged in the Red Sea trade[827] were resident here[828]. The city possessed industries of its own[829] and may well have been the major centre for the exchange of currencies and bullion needed in the India trade[830]. The commercial importance of Coptos came to an end with the destruction of the city by Diocletian in A.D. 297[831] as punishment for its support of the rebels of Upper Egypt[832]. As a consequence of the damage done to Coptos the importance of Berenice and Myos Hormos must have been diminished and that of Clusma enhanced[833].

The results of this analysis of the middlemen involved in Rome's eastern commerce are of considerable interest. The presently available evidence indicates that most of the commerce was in the hands of Roman subjects. The merchants of Egypt and Palmyra sailed directly to East Africa, Southern Arabia and India[834] to obtain silks, cotton, spices, and jewels[835]. There were Arab ships engaged in the coastal trade around Arabia, to East Africa and Persia[836] as well as Indian vessels involved in the subcontinent's coastal trade[837], but the Romans appear to have possessed the largest and most seaworthy ships[838]. Enclaves of Western merchants grew up upon the littoral of the Indian Ocean: on Socotra, where Greek merchants had lived shoulder to shoulder with Arabs and Indians since Ptolemaic times[839]; at Charax Spasinou[840], and finally in the ports of Southern India, where the early Tamil poems of uncertain date[841] speak of a settlement of the Yavānas[842], an ethnic designation which is by no means as specific as is usually assumed[843]. In Central Asia there may now be traces of Palmyrene penetration from Margiana[844] and the agents of Maes Titianus went as far as the frontiers of China[845]. Further East a pioneer named Alexander sailed to Indo-China[846] and the enigmatic port of Kattigara[847]. The reference to an 'embassy' from *Ta-Ch'in* in the 'Hou Han-shu' in A.D. 166 has been interpreted as the first arrival of Roman merchants in South China[848]. The problem is that the precise meaning of *Ta-Ch'in* is open to question [849] and the Chinese themselves viewed these men and their goods with suspicion[850].

Once the important role of Roman subjects in the commerce with the Far East is understood, hypotheses which attempt to explain imperial foreign policy in the East in terms of a desire to eliminate non-Roman middlemen[851] may be dismissed. Such views have long held a compelling fascination for professional scholars and amateurs alike[852]. Theories which attributed the expansion of Republican Rome to economic or commercial motivation, once popular[853], have long been shown to fly in the face of our evidence[854], although sporadic attempts to revive them continue[855].

A prosopographical examination of the known merchants of the Eastern trade is rewarding in a number of ways. Many students of the ancient economy have long argued that the merchants of Antiquity and the early Middle Ages were men of no social consequence. Commerce was an activity of little status in the existing social structure, practised by outsiders — slaves, freedmen, metics, Jews, Syrians, and so forth — and hence shunned and condemned by men of social and political prominence or pretension. In general such men left the commercial origins of their wealth behind when they purchased landed estates, the only socially acceptable form of wealth, and moved into the municipal or imperial governing class. This, in brief is the picture which may be gathered from the works of WEBER[856], HASEBROEK[857], FINLEY[858], PIRENNE[859], JONES[860], POLANYI[861] and others[862]. Cicero's summation of the views of Panaetius in the 'De Officiis'[663] implies that this was the dominant social ethic, and Petronius' overdrawn fictional account of Trimalchio's accumulation of wealth[864] suggest that such a pattern of behaviour was sufficiently stereotyped to be the target of the satirist[865]. For Classical Greece and Imperial Rome most detailed studies of the evidence tend to confirm such a conclusion[866].

But the danger exists that our model, as described above, has begun partially to obscure reality. The primary duty of ancient economic history must be to present the facts, not to engage in vague generalisations or in the construction of models which conform only to part of the evidence. It is not my intention here to criticize all that has been written about the status of ancient merchants; indeed, one can find many examples both in Antiquity and the Middle Ages of men who conform to the model[867]. What has been lost in all this is an appreciation of the close relationship between landed wealth and commercial capital which frequently existed[868]. It was possession of the former which made large-scale investment in public contracts, money-lending, and trade possible[869]. The landed municipal and provincial aristocracy played an important role as financiers and organisers of the Eastern trade.

Marcus Iulius Alexander, a member of a prominent Alexandrian family, was engaged in this commerce[870]. He married the daughter of Agrippa[871], and his brother, Tiberius, was Prefect of Egypt and may have risen to the Praetorian Prefecture under Vespasian[872]. Annius Plocamus, merchant and tax-farmer, came from the *domi nobiles* of Puteoli[873]. Firmus, a friend and ally of Zenobia and briefly usurper of Egypt in A.D. 272[874], is known only from the colourful and mendacious account in the 'Historia Augusta'[875], where among other details it is noted that he sent ships to India[876]. Marcus Ulpius Abgar and Marcus Ulpius Yarhai, possible brothers[877], were prominent among those who financed and protected the Palmyrene commercial caravans[878] and Abgar was also engaged in irrigation agriculture near Palmyra[879]. Another scion of a prominent family at Palmyra, Soades, the son of Boliades, is similarly attested[880]. Septimius Worod, *agoranomus*, *strategus*, and viceroy of Odaenath, was also involved in the city's caravan trade[881]. Other families at Palmyra for whom comparable commercial interests are attested also belonged to the governing aristocracy[882]. Among the Jewish merchants R. Hiyya, who engaged in the silk trade from Babylonia, owned large estates in Galilee[883]. Nor should it be argued that Palmyra and Egypt were unique in this regard[884]. In both the Republic and Empire a very considerable number of those possessing landed wealth and concomitant social and/or political status chose to follow the example of the Elder Cato, that paragon of traditional Roman virtue[885], and invest some of their funds in commercial enterprises[886]. Thus in Antiquity as in the Middle Ages landed property was an important source of commercial capital[887]. In neither period, of course, is it true that the great investors themselves took a personal hand in the trade[888]. The actual day to day matters of trade were in the hands of lesser men[889], some probably very wealthy[890], but nevertheless not to be compared with the great financiers[891]. A brief survey of the men engaged in the Eastern trade thus suggests that the distinction drawn between those who invest for political reasons and those who invest for profit is not a real one[892]. Commerce was not something outside the social system of the Roman world, but rather was intimately connected with the landed upper class which provided much of the investment capital for trade and industry[893].

The financial interest in commerce of the politically powerful, landed ruling aristocracy does not, however, necessarily indicate that commercial motives were important in Roman foreign policy under the Empire. In the period here under discussion a number of military campaigns have been attributed, usually incorrectly, to commercial motives. The policy of territorial expansion which marked the early years of the Augustan principate in Germany[894] also had repercussions in the East[895]. Cornelius Gallus, the first Prefect of Egypt, merely suppressed two rebellions and inspected the southern frontier[896]. Gaius Petronius, the third Prefect, twice marched south, not only to chastise Meroe for encroaching on the frontiers of the Roman province, but also possibly to make the Ethiopians subjects of Rome[897]. The southern frontier of Egypt was established in the Dodecaschoenos[898]. This ensured the security of the province and the mines of the Eastern Desert as well as possibly giving access to the gold-rich Wadi Allaki[899]. For a time at least Meroe became a tributary vassal state[900]. In Arabia another Prefect of Egypt, Aelius Gallus, marched south in a vain effort to conquer the kingdoms of Southwest Arabia[901], thought to be fabulously wealthy in gold and spices[902]. The commercial motivation so frequently asserted by modern scholars was not of importance in this expedition[903]. Most of the overland spice route was already in the hands of Rome's vassal, the Nabataean kingdom[904]. A second such effort has been attributed to Gaius Caesar in A. D. 2/3[905] but his activities were confined to the Nabataean kingdom and Armenia[906], and it is doubtful if anything more than a campaign in the desert east of Syria was contemplated[907]. The supposed destruction of Aden mentioned in the 'Periplus'[908] and variously attributed to Gaius Gaesar[909], Claudius[910], Nero[911] and even Septimius Severus[912] has often been seen as a Roman attempt to eliminate a group of middlemen[913]. Given the total lack of evidence for such a venture, WELLESLEY's suggestion that the author of the 'Periplus' has been confused by distorted local accounts about the expedition of Aelius Gallus[914] should probably be accepted. There is in fact no trace of a Roman military presence in the Red Sea south of Berenice[915].

Much speculation has also centred on the plans of Nero for an Eastern campaign[916]. A small scouting party sailed up the Nile into the Meroitic kingdom — to explore other routes for Oriental commerce, some have said[917] — but the results were disappointing. The explorers reported that the region was a devastated and largely uninhabited land and that the kingdom of Meroe was no more[918], a description which modern archaeologists have increasingly questioned[919]. The Parthian campaigns of the Neronian period also lacked commercial motivation[920]. As usual the focal point of the conflict was Armenia[921]. Under Trajan the Roman Empire resumed a policy of aggressive expansion, unheard of since the time of Augustus[922]. It is to this policy and not to a desire to eliminate middlemen[923] that we must attribute the annexation of the Nabataean vassal kingdom in A.D. 106 as the province of Arabia[924]. Perhaps more frequently than any other campaign discussed above, Trajan's invasion of Parthia in A.D. 115—117 has been interpreted as a desire to control the trade routes to the East[925]. Such an explanation ignores the traditional cause of Romano-Parthian conflicts: differences over strategic real estate in Armenia[926], and imposes on Roman foreign policy an explanation alien to the spirit of Roman government[927].

The protection of commerce on sea and on land by imperial troops is also at issue. It has been argued that any protection provided to Roman merchants by the Roman army or navy was merely coincidental[928]. Total rejection overstates the case. Palmyra, the caravan centre of the eastern frontier, had a Roman imperial garrison and fortifications possibly before the end of the Julio-Claudian period[929]. The Palmyrene grandees, however, continued to patrol the deserts to the east of their city with their own militia of personal adherents[930], while the city also contributed auxiliary units to the Roman army[931]. The first evidence for a Roman road to the Euphrates comes from A.D. 75[932] and the major communication routes across the Syrian desert and later in Mesopotamia were garrisoned relatively late by imperial troops[933]. All such measures including the stationing of troops in Palmyra can be explained as defensive actions to counter possible Parthian incursions[934]. The extensive fortifications of the *limes* date from the third century when the replacement of the militarily impotent Parthians by the vigorous and aggressive Sasanians required a more elaborate static defence network[935]. In the extreme south of the province of Arabia Roman auxiliaries guarded the desert roads[936]. The reason may have been twofold: to watch the movement of nomadic tribes[937] and to guard the caravan routes[938].

In Egypt the major routes across the Eastern Desert from the great horseshoe bend in the Nile to Myos Hormos and Berenice[939] were watched over by legionaries and auxiliaries[940] and furnished with way-stations and cisterns[941] for the use of camels[942] and wagons[943]. Here, too, the protection given to commerce may have been to some extent coincidental. The Eastern Desert was a major source of choice construction stone[944] such as porphyry at Mons Porphyrites[945], granite at Mons Claudianus[946], beryl at Mons Smaragdus[947], and gold at Wadi Hammamat[948]. Imperial interest extended to the topaz quarries of St. John[949] and the pearl fisheries on the Red Sea coast[950]. The quarries employed some servile labour[951] which needed to be guarded, and the army also provided important engineering experience and skills[952] as well as protection against native attack[953]. But all these factors alone do not account for the extensive military activity in the Eastern Desert. The routes across the desert from the Nile were carefully patrolled and guarded[954] and troops were stationed at Berenice and at Myos Hormos[955]. These activities could have had no other purpose than to assure the safety of the trade and traders that passed through these ports and to secure the extensive imperial interest in the spice trade[956].

The existence of a Roman Red Sea fleet to guard the merchants of the India trade has long been a source of controversy[957]. Some have committed themselves firmly to its non-existence[958]. The literary evidence is clearly unreliable and cannot be used to solve the problem[959]. There survives no unimpeachable epigraphic or documentary evidence[960] except perhaps a misunderstood line in the Coptos tariff inscription[961]. On the other hand it is difficult to believe that the Roman government did not maintain some warships on the Red Sea: the small garrison at Leuce Come had to be supplied and rotated[962], imperial mines on St. John's island and the monopoly on pearl fishing required protection[963], and the use of the two designated ports in Egypt by those engaged in the India trade needed to be enforced[964].

Various public works projects may also have been connected with the India trade. The road from Bostra to Aila was built immediately after the annexation of Arabia to the Roman Empire[965]. The speed with which the project was undertaken suggests an urgent strategic need rather than long term commercial considerations[966]. A second project on a grander scale was the clearing of the silted-up Ptolemaic 'Suez Canal' by Trajan[967]. It is hard to perceive this canal in other than commercial terms[968]. Trajan had a fondness for such projects [969] and was certainly well aware of the economic advantages of water-borne commerce[970]. The canal was maintained throughout the imperial period[971], but in the first three centuries of its existence we possess only one reference to its use in the India trade[972]. A promising idea, it may well have been initially unsuccessful. The stones from the imperial quarries near the Red Sea coast continued to be laboriously hauled the longer distance to the Nile[973]. An important factor may well have been the notorious danger of navigation in the upper reaches of the Red Sea[974] as well as the unfavourable wind and current which made it far easier to use Myos Hormos and Berenice[975]. Clusma, the fortress built by Trajan at the Red Sea end of the canal[976], apparently only became an important centre for the India trade after the destruction of Coptos[977] and the penetration of the Blemmyes into the Eastern Desert[978]. A third project also seems to have experienced only limited success. When Hadrian visited Egypt in A.D. 130 he founded the city of Antinoopolis[979] and connected it with the Red Sea via Wadi Tarfah and along the coast to Berenice[980]. The city lay north of Coptos on the Nile and the road may have had as its major purpose the siphoning-off of the India trade which flowed from Myos Hormos and Berenice to Coptos[981]. The slight surviving traces of this road suggest that, although Antinoopolis flourished in the second to fourth centuries, the *via Hadriana* probably did not[982]. Berenice and the surrounding region, which previously had been administered by the *praefectus praesidiorum et montis Berenicidis*[983], a military officer[984], may have become a nome at this time also[985], but the ports of Myos Hormos and Berenice, despite their obvious importance, never seem, to judge from their remains, to have attained any substantial size[986].

The Roman government was also involved in oriental commerce in other ways. When Augustus took Egypt from Cleopatra he appears to have abolished most of the large number of Ptolemaic monopolies[987]. But the Ptolemaic controls on the movement of people into or out or Egypt continued to be enforced[988] and passes were required for those wishing to depart at the Mediterranean ports[989] or desiring to journey across the Eastern Desert to Berenice and Myos Hormos[990]. Special provisions barred senators and *equites* from entering the province[991]. The Ptolemaic monopoly on spices continued in force[992] and the ports at which oriental goods could be landed were carefully designated[993]. The imperial court itself was a major consumer of spices[994] and silks[995], but it is uncertain whether these were purchased or obtained by a levy on the merchants who dealt in them[996]. The latter appears to have been the case with linen, but not with papyrus and glass which were probably subject to the usual money taxes[997]. The manufacture of these typically Egyptian products may in some cases have been on a considerable scale[998] and since commodities such as glass and linen constituted the major industrial exports, apart from wine[999] and metals[1000], from the Roman Empire to the East, the imperial government indirectly benefited from this aspect of the trade also.

It thus appears that, whereas in other parts of the East public building projects and defence arrangements seldom bear any relation to commercial considerations, in Egypt a case can be made that such economic factors were heeded by the agents of the imperial government. Such an inclination may have been a result of the fact that in Egypt, more than in any other Roman province, the machinery of economic intervention and central control was already in place at the time when the Romans arrived. The provincial economy yielded enormous revenues[1001] and the emperors despite the many fundamental changes they introduced no doubt found it advantageous to continue to pursue in certain cases the policy of government intervention and regulation practised by the Ptolemies.

IV. The Spice Trade

There can be little doubt that the most important commodity imported from the East was spices. It will be argued here that not only are spices the most well-documented and widely used eastern imports, but they, rather than silk, are primarily responsible for the balance of payments deficit of the Roman Empire. A recent monograph on the subject of the Spice Trade by Miller contains a number of significant botanical errors [1002] as well as several bizarre and unacceptable hypotheses[1003].

Other imports are of considerably less economic importance. Some ivory was imported from India in the imperial period, but there is little evidence that India replaced Africa as the source of the Mediterranean world's ivory supply[1004]. Ivory continued to be imported from East[1005] and West Africa[1006] in considerable quantities during the first three centuries of our era. Nor does iron merit detailed consideration here. Since early in this century it has become widely accepted that the Seric iron of Pliny was

Indian carbon steel which derived its name from a mispronounciation of the South Indian kingdom of Chera[1007]. The theory is a curious one. The Iron Age came late to Chera, only shortly before the arrival of Western merchants[1008]. In short, Chera is an improbable candidate as the West's major supplier of high quality carbon steel[1009]. Carbon steel as a local product was certainly not unknown in the Mediterranean[1010]. A better identification would surely be cast iron, the production of which, while unknown in the West, was familiar to the Chinese[1011] and some of the people of Central Asia[1012].

Two major problems about the spice trade remain to be resolved: which of the many spices imported into the Mediterranean were in fact of South Asian origin, and when did the trade begin? These are issues which are by no means unrelated. With the exception of pepper, the list of spices known to be certain imports from the Far East are: ἀλόη, ζιγγίβερις, καρυόφυλλον, ναρδόσταχυς, μαλάβαθρον, κόστος, βδέλλιον[1013]. Sesame seeds or oil, included by MILLER among imports from India[1014], are Egyptian commodities whose production in very considerable quantities in 259 B.C. is recorded in the Revenue Papyrus[1015]. Production rapidly decreased later in the third century, as it did for all oil plants[1016], because of the Egyptian preference for cereal crops and a possible prejudice against cash crops[1017], but it never entirely dissappeared even under the Roman Empire[1018]. Widespread cultivation of sesame is also recorded in Syria[1019] and Babylonia[1020]. There thus exists no reason to assume simply because sesame grew also in India that it was exported in large quantities to Rome[1021]. Cardamom falls into a similar category. It is assumed by MILLER to be an Indian import[1022], yet documentary evidence indicates that it grew in Egypt[1023].

Other products, such as cotton, pose parallel problems. Historians of Rome's Eastern commerce have long regarded India as the primary source of cotton materials in antiquity[1024]. Pliny's statement that cotton grew in Upper Egypt and Bahrein is usually interpreted to be of little importance and to refer to a type of cotton not usable in textile manufacture[1025]. The Egyptian documents modify this picture. Already in the Persian period cotton (*qṭn*) is found as an agricultural product in Aramaic papyri and ostraca[1026]. In the second century of our era it was grown at the oasis of El-Changa[1027] and two business letters of the same period suggest that the local product was in relatively widespread use[1028]. Cotton has been excavated at Meroe and Karanog in the Sudan[1029] and at the monastery of Phoebammon and Karanis in Egypt[1030], as well as at Palmyra[1031] and Dura Europos[1032]. In the West the finds are less numerous, at Chew on Stoke[1033], near Rome[1034], on the Taborberg at Aquincum[1035], and recently at Pachten[1036]. In general, however, there is little reason to assume that cotton, either Eastern or Egyptian, played a significant role in the textile industry in the Western provinces[1037].

The problem is equally complex in the case of products which are designated as Ἰνδικός. For example, the ὀκτὼ φλαγέλλιον καλάμου ἰνδικοῦ mentioned in a list of household articles from Karanis[1038] may be bunches of what Dioscurides calls κάλαμος ὁ εὐώδης, i. e., sweet flag or calamus, one of the best varieties of which was imported from India[1039]. But caution is required since a plant of this name grew in the marshes along the Red Sea coast[1040]. Other supposed imports pose similar problems. Zenon's faithful hound Ταύρων is described as Ἰνδον in a papyrus copy of the epitaph from his grave[1041]. Indian dogs occur both in our literary sources and in art[1042] but no more than a breed of dog need be indicated by the ethnic[1043]. Tauron may be a locally bred example of a breed already found in Babylon in Herodotus' day[1044].

Six imported spices appear to have been widely used in various parts of the Roman Empire: malabathrum[1045], pepper, frankincense, myrrh, cassia, and cinnamon. Pepper, definitely an Indian product, ranks among the most important[1046]. Literary references, particularly in Apicius[1047], and finds of pepper shakers[1048] as well as the numerous references in papyri[1049] attest to the widespread use of this Indian product. Four other spices are not products of South Asia. Frankincense and myrrh came from Southwest Arabia, particularly the regions of Dofar and Hadhramaut[1050] and some varieties grew in East Africa[1051]. The use of these products in the Mediterranean goes back well into the Dynastic period[1052]. The expedition of Queen Hatshepsut recorded on the reliefs and inscription from Der el-Bahri[1053] seems to have been intent on fetching these products[1054] from Southwest Arabia, but the exact geography of that venture is still the source of vigorous controversy[1055]. The Pharaonic effort to transplant frankincense trees from their native habitat to Egypt[1056] may have been imitated by Ptolemy Philadelphus, but botanists give neither enterprise much change of success[1057].

Two closely associated spices pose particular problems. It is common ground among almost all scholars who write on the subject that both spices originated somewhere in South Asia, whether India, Ceylon, Indonesia, or Southern China[1058]. Yet with the exception of a single passage in Strabo all of our ancient sources are unanimous in attributing both cassia and cinammon to Arabia and East Africa[1059]. The communis opinio holds that the merchants of Southwest Arabia in the period of the 'Sabaean thalassocracy' gained a monopoly not only on the import of both spices, but also on the knowledge of their true origin, and that they continued to retain this monopoly throughout the Roman period[1060]. Since, however, cinnamon is already mentioned in Egyptian texts of the second milennium B. C.[1061], it was thought necessary to attribute such early commerce to the Phoenicians and more recently to the Indonesians[1062]. Undaunted by the fact that the identification of many of the substances mentioned in early Egyptian documents is uncertain[1063], MILLER proposed that cinammon and cassia were carried from the islands of Southeast Asia to the coast of East Africa near Madagascar. The spices were then transported overland to the ports of Somalia[1064]. This rather bizarre theory has its origins in a strange tale told by Pliny[1065] and in the widely accepted view that Madagascar was settled by Indonesians in the early years of the present era[1066]. The type of evidence used by JONES, upon whose work MILLER, apparently without much further enquiry, bases his theories, is primarily anthropological and undatable[1067]. The linguistic evidence has been analysed in detail; research to date points to a derivation of Malagasy from Malayo-Polynesian before any significant Sanskritization[1068]. In the case of Malayan origins this would fix an approximate terminus ante quem of the fifth or sixth century[1169]. On the other hand, if we assume the migrants came from Sumatra, Java or Borneo, the time is considerably later[1070]. The discovery of a quadrangular stone adze east of Ankazobe does not significantly narrow down the chronological options noted above[1071]. Nor are the bead finds of much assistance[1072]. Other comparative material of an anthropological or ethnographic nature, such as the similarity of blood types[1073] or the parallels in the use and construction of the xylophone and outrigger canoe[1074], are too imprecise to be of assistance in a historical reconstruction.

It is also important to remember that no scholar apart from MILLER has seen this migration as a commercial venture[1075]. An ever increasing amount of archaeological evidence from the islands of the Pacific indicates that the islanders using large outrigger canoes were able to perform voyages of as much as 2,000 miles[1076]. No known voyage equals the 3,500 miles of open ocean which lie between the most westerly islands of Indonesia and Madagascar[1077]. More important, however, is the determination that the great voyages of the Polynesians were made primarily in search of food and the necessities of life; large-scale commerce does not figure as a significant motive[1078]. The most that may therefore be said is that an unknown number of Indonesians deliberately or more likely accidentally[1079] were carried by wind and currents to Madagascar where they settled.

The whole notion of a secret Monsoon and cinnamon trade strikes one as rather absurd[1080]. It is necessary to assume that South Arabia obtained such a monopoly on both navigational knowledge and the spice long after the merchants of the Persian Gulf were already frequenting Indian waters[1081]. Furthermore, one must assume that Arabian ships reached Southeast Asia centuries before Indian vessels made the trip[1082]. Archaeologically the evidence of Indian contact with Southeast Asia can scarcely be put before the present era[1083], and the main thrust in Western Malaya does not appear to come until the third to sixth centuries[1084]. Even at commercial centres such as Oc-eo the evidence of Indian contact is quite limited[1085]. Such a late date for Indian penetration of Southeast Asia is also confirmed by references in Chinese literary sources to this region[1086]. That the native cultures of some parts of Southeast Asia were nautically more advanced than their Chinese neighbours remains a distinct possibility[1087]. Early Chinese travellers used such foreign vessels[1088], but the only other literary evidence for their possible existence is a disputed passage in the 'Periplus'[1089]. The date of the earliest Chinese voyages to the West remains controversial due to the difficulties in identifying toponyms mentioned in Chinese texts[1090]. The account of a voyage in the 'Han-shu' to *Huang shih* in A.D. 2[1091] still is the only widely accepted reference to an early Chinese voyage to the West, but even this is not entirely convincing[1092]. Archaeologically there are few traces of Chinese imports in Indonesia and India until the T'ang period[1093].

The whole discussion of the early cinnamon trade and its sources has become inexorably intertwined with the hypothesis, held by many to be an established fact, that the Sabaean discovery and use of the Southwest Monsoon for voyages to India and Southeast Asia greatly antedates the arrival of the Greeks on the Indian Ocean[1094]. In the nineteenth century it was held that the port of Ophir frequented by King Solomon's ships was in India or beyond[1095] and that the Phoenicians were engaged in a sea trade with China[1096]. Although both the latter hypotheses have long been shown to be pure fabrication, variations on this theme have survived in superficially scholarly works on the spice trade[1097]. The 'Sabaean thalassocracy' hypothesis, which is intellectually the successor of the above-mentioned theories, still flourishes today and continues to gain new converts[1098]. The archaeological evidence once cited to support such speculation has now largely melted away. The glass beads found at Kota Tinggi and Johore Lama, identified by BECK as including Mediterranean specimens of the seventh century B. C., were considered reliable evidence of early commercial contacts between Malaya and the West[1099]. The entire problem of the discovery of glass beads at various Southeast Asian sites has been restudied. It is now understood that beads could be used or reused over many centuries[1100] and that their discovery at any given site is of little chronological value[1101]. The sites of Southeast Asia and Indonesia are currently dated primarily on the basis of imported Chinese ceramics and subsequent investigation has shown that Tikam Batu and other sites originally excavated by QUARITCH WALES must be dated to a considerably later period[1102]. The results obtained from a re-examination of the archaeological evidence point to the conclusion that little glass was imported anywhere in Indo-China and Indonesia before the Islamic period in the West and the T'ang dynasty in the East[1103]. Furthermore, the chemical analysis of glass beads, to some extent more accurate than the subjective analysis of shapes[1104], has shown that both Chinese and Western beads occur in this area but little can yet be said about their geographic origins[1105]. Even distinctive manufacturing techniques such as the layering of glass and gold leaf is attested for both Egypt and India[1106]. Apart from glass there remain only some enigmatic sherds. Found in a nonscientific and unstratified excavation together with Malayan Neolithic ware at Bukit Tengu Lemba in Perlis, these sherds, of distinctive texture and shape, were identified by CORBETT as being Greek pottery of the late fifth or early fourth centuries B. C.[1107]. No comparable material has been found anywhere else in Southeast Asia. An isolated and unique find of questionable identity and coming from an unscientific excavation is of no historical value[1108]. Although undoubtedly a curiosity, it cannot alone be used as evidence of early commerce between Malaya and the West[1109]. Other archaeological or ethnographic material which has been brought forward is purely speculative (or worse) and does not merit detailed consideration[1110].

From Arabia itself we possess no evidence of such ancient sea-borne commerce[1111]. The early inscriptions all indicate that the primary concern of this civilisation was with the exploitation of the agricultural potential of the great central oases[1112]. The commerce in spices was indeed of considerable antiquity[1113], but it was primarily an overland concern along the caravan routes from Southern Arabia to Palestine, Mesopotamia and Egypt[1114].

When all other supporting evidence is stripped away, the 'Sabaean thalassocracy' is ultimately compelled to rely upon the early appearance of cinnamon in the Mediterranean world[1115]. In doing so it must contend with the evidence to the contrary found in all of our ancient literary sources[1116]. An African or Arabian origin of ancient cassia and cinnamon is also suggested by an analysis of the occurrence of these spices in Ptolemaic papyri[1117]. Whereas genuine Indian spices are very rare before the second century of our era, cassia and cinammon occur measured by the *cotyle* in the Zenon papyri[1118]. In both use and quantity they are akin to myrrh and frankincense[1119]. The picture of our literary and documentary sources is consistent. For confirmation we must look to the 'Periplus', the only contemporary, first-hand eye-witness account we possess, which clearly states that large quantities of cassia, a term which here probably includes what other authors call cinnamon[1120], were produced in Somalia and exported from its ports[1121]. There is no room in any of this for secret Arabian imports from Southeast Asia. Anyone familiar with the history of the Far Eastern spice trade in the era of European imperialism will realize that the maintenance of such a monopoly on the widely scattered sources of spices is a technical and organisational impossibility[1122]. Both words, cassia and cinnamon, unlike pepper, are of Semitic rather than Indian origin[1123]. All of our evidence thus suggests that ancient cassia and cinnamon originated from a source contiguous to the Mediterranean world, most likely East Africa. The incompatibility between this conclusion and the present-day absence of this plant from East Africa is easily resolved[1124]. As LAUFER realized many years ago, the most probable resolution of this enigma is that the words κασία/*casia* and κιννάμωμον/*cinnamomum* do not designate the same spices we know under these names today[1125]. Both substances were widely used in the embalming process and there remains the possibility of modern chemistry making some contribution[1126]. To date, however, chemical tests have not been able to isolate anything apart from resinous substances akin to myrrh and frankincense in surviving mummies[1127].

The problem of the chronology of the 'discovery' and use of the monsoon for voyages to India is not unrelated to the matters discussed above. Although the 'Sabaean thalassocracy' and prehistoric cinnamon trade hypotheses have been shown to be unsupported by the presently known evidence, the question of a possible Indian or Arab discovery of the Southwest Monsoon remains open[1128]. Firm evidence for the use of the Red Sea for voyages around Arabia comes from the Persian period. Darius dug (or re-dug) a canal from the Nile to the Red Sea[1129]. The route was used for official voyages to Persia around Arabia[1130]. The sea route from the mouth of the Indus to

Egypt was explored by a certain Scylax under a commission from the Persian court[1131]. In both cases the purpose was non-commercial and the routes involved were along the coast[1132]. It is uncertain whether the Arabs had already ventured onto the sea by this time[1133]. The Arab penetration of Ethiopia is archaeologically dated back to at least the fifth century B. C.[1134]. While the exact dates are controversial, it is not at all early. Since only the most primitive type of raft was needed to cross the Straits of Bab el-Mandeb, evidence from an earlier date would not be surprising[1135]. Only slightly larger craft would have been needed to make the short voyage across the Gulf of Aden and along the East Coast of Africa, since both winds and currents were favourable[1136]. To judge from the name given to the East African coast in the 'Periplus' — ἡ Αὐσινίτη ἠϊών — the people of the Southern Arabian region of Ausan led the way in this colonization movement[1137]. The dates assigned to the kingdom of Ausan vary considerably and the criteria used to choose a date in the period from the fifth century B. C. to the first century of our era are arbitrary and unreliable[1138]. Navigation south along the African coast as far as Rhapta — generally assumed to be no further than slightly below the latitude of Zanzibar[1139] — was facilitated by knowledge of the use of the gentle Northeast Monsoons[1140]. Thus the colonization of the East African coast by Arabs required little in the way of navigational sophistication or nautical technology. There is nothing in any of this which necessitates or even suggests that the Southwest Monsoon was used for voyages across the Indian Ocean[1141]. Nor is the magnitude of this Arab movement to settle on the East African coast to be compared with the colonization of Ethiopia. Neither the Arab settlers nor the Graeco-Roman and Indian traders who visited the coast appear from the evidence known to date to have left any traceable impact on the native peoples either of the coast or of the interior[1141a]. There is no compelling necessity in the common assumption that the mere existence of the Monsoons implies their use. We possess no literary evidence for the use of the seasonal winds for high seas voyages in the South China Sea, where the development of trade is documented by Chinese sources, until the third century of the present era, several hundred years after commerce in this area is first attested[1142]. Certainly, as several scholars have pointed out, the Arab dhows, built without nails, were little suited for the use of the powerful and frequently stormy Southwest Monsoon[1143]. The lateen sails of the dhows were best suited for the gentler Northeast Monsoon[1144]. Indian and Malayan vessels were larger and possibly better built[1145] and may thus have been more easily capable of coping with stormy seas faced in the use of the Southwest Monsoon, but the history of early Indian navigation is heavily dependent on such literary sources[1146] as the Buddhist 'Jatakas'[1147], 'Arthaśāstra'[1148] and the 'Mahābhārata'[1149], the closing dates of all of which are still highly controversial[1150]; the very early dates cited by many scholars[1151] must be treated with caution or even scepticism.

In the Red Sea itself we possess little evidence for Arab commerce in the Hellenistic period. Nabataean pirates were suppressed by Ptolemy Philadelphus, but otherwise we are totally without evidence[1152]. The original reading and interpretation of the Minaean inscription on the Giza sarcophagus, frequently cited as evidence of Arab Red Sea commerce in the Ptolemaic period[1153], has long been abandoned in favour of a considerably different reading[1154]. The Eastern coast of the Red Sea is in general not suited for maritime activity: it lacks good harbours and is fringed by coral reefs[1155]. Furthermore, the Arab peoples who inhabit this region of Arabia have historically exhibited no tendency toward seafaring[1156].

Two fragments of Agatharchides and several documents in the Zenon archive provide us with the most reliable evidence for this early stage of the spice trade. The first fragment[1157], the source for which may be the 'Periplus' of Ariston ,— at any rate the information it contains belongs in the third century B. C.[1158] — notes that the εὐδαίμονες νῆσοι were in touch with Patala at the mouth of the Indus[1159]. These mythical islands[1160], in this context identified by most as Socotra and nearby smaller islands[1161], were the centre of the earliest known sea-borne commerce between Arabia and India. The settlement of Greek, Arab, and Indian merchants on Socotra may go back to this period[1162] but there is no need to suppose that anything other than a coasting trade was involved[1163]. South India was not yet a port of call, although Ceylon was already vaguely known to Nearchus[1164]. The most popular product from this part of the world, pepper, known to the Greeks since before the time of Alexander[1165], did not come into widespread use in the Mediterranean until the first century B. C.[1166]. The second fragment of Agatharchides, dated to the third century B. C. from its reference to Ptolemaic Syria, deals with the overland commerce of the Gerrhaeans and Sabaeans with Palestine[1167]. That the major spice route in this period ran overland is also suggested by an account from among the Zenon papyri, which makes references to an official at Gaza entitled ὁ ἐπὶ τῆς λιβανωτικῆς who supervised the import of aromatics into Egypt[1168].

The Persian Gulf must also have been important. Commerce between the ports at the head of the Gulf and the coast of Carmania[1169] and Northwest India[1170] goes back at least to the second millennium B. C. or earlier. In the Hellenistic period the Arab city of Gerrha[1171], which was connected by an overland route with the spice-producing regions of Southern Arabia[1172], became, as Agatharchides notes, a major commercial centre[1173]. Her merchants and wealth were famous[1174], but the city appears not to have survived into the Roman period[1175]. The Seleucid kings took an intermittent interest in the region. They are known to have founded colonies on the Persian Gulf[1176] and Antiochus III compelled Gerrha to pay tribute[1177].

In the Red Sea officially sponsored navigation may have accounted for much of the activity during the Ptolemaic period. The gold mines of the Eastern Desert were developed by the Ptolemies[1178] and Philadelphus reopened the Nile-Red Sea canal[1179]. A road was built from Coptos to Berenice[1180] and a permanent fleet was stationed on the Red Sea[1181]. A series of expeditions was sent out to explore the Red Sea coast[1182] and supplement the information gathered by Alexander's captain, Anaxicrates, on his voyage from Egypt to the Persian Gulf[1183]. Explorers and Ptolemaic troops also penetrated south along the Nile into the kingdom of Meroe[1184]. The purpose of all this Ptolemaic activity was to establish elephant-hunting stations in order to provide the army with a supply of these important machines of war[1185]. Details about the founders of these stations and how they were operated may be gleaned from a number of papyri and inscriptions[1186]. An ambassador, Dionysius, was also sent, probably by sea, to the court of Chandragupta to rival the Seleucid emissary Megasthenes[1187]. Chandragupta's successor, Aśoka, took a keen interest in spreading the tenets of Buddhism to the far corners of the known world[1188]. Greek and Aramaic versions of his edicts have come to light at Kandahar[1189] and in his thirteenth Rock Edict he makes mention of an embassy to Ptolemy II and other Hellenistic kings[1190]. The precise purport of the document is uncertain — Aśoka's ambassadors may never have set foot in Egypt[1191] — and there is no hint here of any commercial motivation for the embassy[1192].

Certainly in the third century B. C. voyages to the vicinity of Bab el-Mandeb, although dangerous, were not an unusual feat[1193]. It is, however, difficult to connect any of this official activity with the spice trade[1194]. The Ptolemies rigidly controlled the import and export of various commodities into and out of Egypt, as had been done by their predecessors, the Persians[1195] and the Pharaohs[1196]. The spice trade, like many other products, professions, and processes[1197], was a royal monopoly leased out to local contractors[1198]. In addition a high tariff was imposed in the Red Sea ports as well as at Gaza and Pelusium[1199]. The relationship of the spice trade to the elephant-hunting colonies is uncertain. Some spices were imported by sea[1200], but it seems that while the Ptolemies retained their hold on Palestine — that is, until 200 B. C.[1201] — most Arabian spices came to Egypt and the Mediterranean world by land. While commerce in spices in the third century is relatively well documented from literary sources and papyri, in the second century problems arise. It is unknown for how long the elephant-hunting colonies survived after the ambitious efforts of Philadelphus and Euergetes I[1202] and for how long the beasts played an important role in the Ptolemaic army[1203]. It is conceivable that the hunting of animals for warfare and the far more devastating pursuit of the great beasts for their ivory[1204] may have so depleted the herds that the hunting stations had to be moved constantly further south[1205] and that eventually elephants disappeared from the coastal regions[1206]. The nature and extent of these elephant-hunting colonies remains elusive. We know very little about two important features: their size and permanence[1207]. Adulis is the only port excavated in the region and here the results are unsatisfactory[1208]: nothing can with certainty be attributed to the Ptolemaic period[1209]. The 'Periplus' mentions a substantial Greek merchant colony on Socotra almost certainly going back to the Ptolemaic period[1210].

In the first century of our era the shores of the Red Sea were dangerous territories[1211]. The Arab tribes in the east were prone to piracy and the natives on the western coast were only slightly more civilized[1212]. The whole subject of Greek penetration is very much enveloped in mystery and there is little hope of significant progress in the foreseeable future[1213]. Historians of the region have in recent years repeatedly argued that the political organization of Axum is an accomplishment of the second century of our era and that the 'Periplus,' which provides our earliest evidence for this, was written at that time or even in the third century[1214]. Not so. As I hope to demonstrate in detail elsewhere, on the assumption that the 'Periplus' was written as a uniform whole and that its references to political events are at least approximately contemporary[1215], only a mid first-century date is possible. The consequence of this is that Axum is an organized political entity with a king who knows Greek by c. A.D. 50/60[1216]. Before this we are in the dark. Neither the coins and medieval annals[1217] nor the Greek inscriptions of the kings of Axum are of any assistance[1218].

The consequences for the history of this area which follow from the above date of the 'Periplus' have not been adequately appreciated[1219]. The purely artificial and distorted reconstruction of Southern Arabian chronology and history by Pirenne[1220], which raised anew the third century date of the 'Periplus'[1221], and whose major purpose was to reinterpret the history of the region to fit her erroneous palaeographic construction[1222], must be dismissed. The whole theory is so filled with errors and inconsistencies[1223] that it is even more humorous than the hapless excavators of Qataban, whom Pirenne attacks[1224]. As a result the identification of the Χαριβαἤλ in the 'Periplus' with the Karib'il Watar Yuhan'im II of the inscriptions must remain a real possibility[1125] and so must the existence of a powerful Himyarite kingdom in the mid first century[1226]. The consequences have seldom been recognised by earlier advocates of the first century date[1227]. It follows then that Qataban came to an end in the first half of the first century of our era[1228]. From this time we have evidence of the first penetrations of the Habashat (*ḥbst*) from Ethiopia into Southern Arabia[1229]. The relationship of the Habashat to Axum is now clear[1230] and it becomes a real possibility that the kingdom of Axum was already at least an intermittently powerful force in this region in the first century B. C.[1231]. There may be consequences for the possible terminus post quem of the 'Monumentum Adulitanum' in such a conclusion[1232]. The whole structure, however, is very fragile. The epigraphic evidence from Southern Arabia is far from complete and new discoveries may change the entire picture[1233]. What is certain is that the 'Periplus' is securely dated and that the evidence which it furnishes must be considered in any future reconstruction of the chronology of the region[1234]. Palaeographic speculations should never again be given preference over the concise evidence of a contemporary, securely dated eye-witness account[1235].

A very tentative reconstruction of the late Ptolemaic period may thus be proposed. There is some Greek commerce with the Ethiopian coast. This was encouraged by the early kings of Axum whose military successes[1236] may in part have been due to imported Greek and Roman metals and weapons[1237]. Only in this way can the extensive use of Greek in the early Axumite inscriptions be explained[1238]. In Southwest Arabia the situation is different. There is little trace of Greek penetration[1239]. In fact one may suppose that some of the Arabian kings maintained a royal monopoly on the spice trade and forbade Greeks to settle here[1240]. Elsewhere, as, for example, in Qataban, foreign merchants were welcome but carefully regulated and taxed[1241]. There is little trace of Ptolemaic contact or influence in Southern Arabia[1242]. The local coinage of this period imitates the Old and then the New Style Athenian tetradrachms[1243] — a strong indication that the commercial ties of the area were by land with Palestine[1244] and not by sea with Egypt[1245]. The Ptolemies may possibly have been able to tap into this route in the southern Hejaz[1246]. Here in the Ptolemaic period[1247] flourished the Lihyanites who appear to have been friendly to the dynasty of Egypt[1248]. Possibly a Red Sea port such as Leuce Come was involved[1249]. Otherwise spices on the overland route reached Egypt through the hands of the Nabataeans[1250] and Minaeans[1251]. Although these desert princes struck a silver coinage with a Ptolemaic reverse[1252], relations between them and the Ptolemies were not always very good[1253]. While the Nabataeans were active participants in the commercial network of the eastern Mediterranean by the second century B. C.[1254], it appears from the Nabataean inscriptions published to date that these Arabs were excluded from Egypt proper until the Roman period[1255]. Possibly, such access to Egypt was permitted as a reward for their support of Augustus, rather than Antony, before Actium[1256].

It also appears that the Greeks were not alone on the Red Sea littoral. Indian merchants settled on Socotra[1257] and possibly on the Axumite coast[1258]. Again there is little trace of any such settlement in Southern Arabia[1259]. Some even sailed north as far as Egypt where one miserable survivor of a shipwreck was rescued by Ptolemaic coastguards[1260]. For actual Indian settlement in Egypt itself we possess no evidence[1261]. The speculations of Flinders Petrie[1262], popularized by Tarn[1263], have long been put to rest[1264]. In the Roman period we encounter people bearing names such as Ἴνδιος or Ἰνδική in the papyri from Egypt[1265] and in inscriptions from Asia Minor[1266], but the significance of such ethnics is very uncertain[1267]. In classical authors there is a frequent confusion between India and Ethiopia as well as the natives of both countries[1268]. Two further alternatives also must be considered: Ἴνδος became in the Hellenistic period the generic term for *mahout* (hence the Abu Simbel and El-Kanaïs graffiti[1269]) and names with this type of construction are a local peculiarity of Cilicia[1270]. There is thus little probability that the persons mentioned above are true Indians.

It is within the background of Greek settlement in the Red Sea area that we must consider the date of the discovery of the use of the Southwest Monsoons for commerce with India. This has long been the subject of controversy with some favouring an early date in the late second century[1271] and others dates as late as the Julio-Claudian period[1272]. What little evidence we have favours the earlier date. What was said above about Greek penetration of the East African coast and Socotra supports the conclusion reached by Otto, Bengtson, and Thiel, that the discovery of the use of these winds must go back at least to the two voyages of Eudoxus of Cyzicus[1273]. The significance of this story is difficult to fathom. Posidonius, as recounted by Strabo, relates the story of Eudoxus[1274], a guest at the Ptolemaic court, who, guided by a shipwrecked Indian, leads two officially sponsored expeditions in 118—116 B. C.[1275] to India. As Strabo notes, the tale of Eudoxus and its sequel, an attempt to sail from Gades around Africa[1276], does contain some peculiar details[1277]. There also exist two ancient accounts of the discovery of the Monsoon: one in Pliny[1278], the other in the 'Periplus'[1279]. They differ in detail but both describe the use of the Southwest Monsoon for voyages directly to Muziris in the middle of the first century of our era[1280]. The first discovery of the use of the seasonal wind for voyages to India falls well before that. All but the descriptions of the last stage was found by Pliny in Juba[1281], who himself relied usually on written Hellenistic sources rather than first-hand information[1282]. In the 'Periplus', too, the discovery is placed in the dim and distant past[1283]. The problem arises that both Pliny and the 'Periplus' mention a certain Hippalus, not Eudoxus of Cyzicus, in connection with the discovery[1284]. The contradiction has been rationalized by arguing that Hippalus was a ship's captain or pilot serving under Eudoxus[1285]. This, of course, is a simple solution; too simple perhaps, and one which can never be verified. The details of Eudoxus' voyage reached us by a very circuitous route. It is presumed that he told his version of it in Gades, where several years later it was recounted to Posidonius and then taken over from the latter by Strabo[1286]. We thus possess Eudoxus' own version of the Indian voyages as told to men in the West, who were in no position to know any details about Indian Ocean navigation and whom he intended to impress with his previous exploits in order to obtain financial support for his proposed circumnavigation of Africa[1287]. Once this is realized, the possibility that Eudoxus was not the actual leader of the two Ptolemaic expeditions to India must be borne in mind[1288]. So must the contingency that Ptolemy Euergetes II was not aware that such voyages had been going on for a considerable time[1289]. Hippalus may even antedate the adventures of Eudoxus[1290].

The late second century B. C. dating proposed by Otto and Bengtson was supported by their attribution of an inscription containing the earliest reference to the office ἐπὶ τῆς Ἐρυθρᾶς καὶ τῆς Ἰνδικῆς θαλάσσης to the year 110/109 B. C.[1291]. But such supervision may not have been an innovation even at this time[1292]. Moreover, the recent re-dating of the inscriptions of Callimachus στρατηγὸς τῆς Ἰνδικῆς καὶ Ἐρυθρᾶς θαλάσσης[1293] has raised the possibility that the text published by Otto and Bengtson may, in fact, fall into 74/73 B. C.[1294]. It is argued that this apparent supervisory role of Ptolemaic officials over Indian Ocean commerce is a new development and suggests that such commerce was now of importance[1295]. Others have sought to furnish further evidence from India. The renowned Indo-Bactrian king, Menander, whose period of rule is not certainly dated[1296], may have conquered the region about the mouth of the Indus[1297], and inscriptions from the Western Ghats record the presence of *Yavānas*[1298]. All this, it is argued, was connected with an increased sea trade between the Hellenistic kingdoms of the West and the Indo-Bactrians[1299].

The advocates of a later date for the discovery of the use of the Southwest Monsoon cite a short passage of Strabo[1300] based on information derived from the geographer's visit to Egypt in 26—20 B. C.[1301]. There he compares the small volume of Ptolemaic traffic to East Africa and India with the large number of ships which made the voyage in the Roman period. The context of the passage is argumentative and the general tenor suggests a denigration of the accomplishments of the Ptolemaic period and a glorification of the changes wrought by Roman rule. The numbers of ships cited by Strabo, 20 and 120, should not be considered reliable; at best they are an indication of the change in the scale of traffic[1302]. Strabo's disparagement of the accomplishments of the Ptolemaic period is contradicted by both literary and documentary evidence as well as by the geographer himself[1303]. The upsurge in commerce in the decade after Actium was not due to the discovery of the Monsoon, but rather, as with many other discoveries and technological developments, the full utilization of the new technique came only when general economic conditions were favourable for such exploitation[1304]. It was the swift and dramatic return of wealth and prosperity to the Mediterranean world after 30 B. C.[1305] which led to the enormous increase in Red Sea and Indian Ocean commerce of which we know from Strabo, Pliny, and the 'Periplus'. The economic and political problems of the last century and a half of Ptolemaic rule must have had an effect on this commerce[1306]. A serious revolt in Upper Egypt probably disrupted the land routes of the Eastern Desert until order was restored c. 186 B. C.[1307]. The endless Syrian wars, the progressive dynastic degeneration, and the depreciation of Ptolemaic currency[1308] all may have weakened the financial position of Egypt's Greek merchants[1309]. This could explain why in a bottomry contract of the second century B. C. we find five ναύκληροι including a Lacedaemonian and a Massiliot[1310] financed by the private investments of a Carthaginian, two Massiliots, a Greek, an Italian, and possibly a Roman banker[1311] preparing to sail εἰς τὴν 'Αρωματοφόρον[1312]. An economic explanation for the relatively low volume of late Ptolemaic commerce in this region seems far more likely than any failure to utilize the Monsoons[1313].

A curious story told by Pliny in his description of Ceylon has also been drawn into the argument. Our author parades as new information the story of a freedman of Annius Plocamus who, while sailing around Arabia, was carried off by a northerly gale and in fifteen days reached Ceylon[1314]. After a stay of six months, during which time the local ruler greatly admired the *denarii* in the freedman's possession, the Roman castaway and a Ceylonese embassy sailed for Egypt and Rome[1315]. The information which Pliny derived directly or indirectly from these envoys has long aroused suspicion[1316]. Neither the size of Ceylon nor the astronomical observations quoted in the 'Naturalis Historia' are accurate[1317]. Such inaccuracies pose a far more severe credibility problem than any chronological difficulties involved in this sailor's yarn[1318]. There is certainly nothing in this which sheds any light on the date of the discovery of the use of the Southwest Monsoon[1319].

Archaeology is at present of only limited assistance in delineating the chronology of Hellenistic and Roman trade with India[1320]. The absence of Ptolemaic coins from India has long been noted[1321], but this does not indicate that trade did not exist[1322]. By the second century B. C. Ptolemaic tetradrachms were sufficiently debased to make them largely unacceptable in Mediterranean commerce[1323] and it is not surprising that the Indians also refused to accept them. Payment could always be made in the form of uncoined bullion, as was frequently done in the Middle East and Persia before the arrival of Alexander the Great[1324]. More significant perhaps is the absence from India of the major Western commercial coinages of the period which circulated in Southern Arabia[1325], the Persian Gulf ports[1326], Persia[1327], and Bactria[1328].

The excavation of large quantities of Arretine ware at the east coast site of Arikamedu[1329] presupposes a sea-trade of some sort with that port. The precise date of the pottery recovered by the French and British excavators of the site can be determined with considerable accuracy and is late Augustan[1330]. The Arikamedu pottery was either imported directly from Egypt by sea around Cape Comorin by western vessels or it was transferred to Indian vessels at a South Indian port such as Muziris for the remainder of the voyage[1331]. The use of the Southwest Monsoon for either voyage is a virtual certainty[1332].

Perhaps much of the confusion and debate has arisen because of a failure to appreciate what is at issue. Ships in the Arabian Sea have no doubt for centuries made use of the seasonal Northeast Monsoon and Trade Winds for voyages to East Africa and from Arabia to the mouth of the Indus[1333]. Either by coastal voyages or the shorter course across the Arabian Sea ships from Arabia had been making the voyage to Patala at least since the third century B. C.[1334]. The problem is to determine when the discovery of the use of the Southwest Monsoon for outward voyages direct from Ocelis to Southern India was made[1335]. The smaller sewn Arab craft with their lateen sails were incapable of regularly using this route[1336], but the large square-rigged Mediterranean vessels, larger, faster, and more solidly built than the former[1337], could utilize, with some risk, the stormy Southwest Monsoon[1338]. It was only the use of this route on the outward bound journey which can be termed a discovery, and if we wish to credit Eudoxus of Cyzicus with any originality, it must have been this route which he used.

The date of the discovery of the use of the Monsoon is not a problem entirely separate from that of the date of the 'Periplus'[1339]. This enigmatic document apparently written by a ship's captain provides us with generally reliable contemporary information about the commerce of the Red Sea and Indian Ocean. With its emphasis on commerce and navigational advice the 'Periplus' markedly differs from the other ancient examples of this genre[1340] and resembles far more closely the merchants' handbooks of the Middle Ages[1341]. The date of this little treatise has for a century been the subject of controversy[1342] and recently the nineteenth-century heresy of a third-century date has gained a number of new defenders[1343]. Much of the conflict has centred on Chapter 19, which mentions a 'Malichus', king of the Nabataeans[1344]. It was early recognized that the king in question was Malichus II, who reigned A.D. 40—70[1345]. Subsequent theories raised the possibility of the existence of a Malichus III after the annexation of Arabia in A.D. 106[1346]. Not a single piece of defensible evidence has been brought forward to demonstrate the existence of such a monarch within the province of Arabia[1347], and recent archaeological surveys in the Hejaz have illustrated that the Roman province in fact included the southern portion of the Nabataean kingdom[1348], thus leaving no room for a small surviving independent Nabataean princedom after the annexation[1349]. Nor need one find the reference to the stationing of a Roman garrison and tax official at Leuce Come during the existence of the Nabataean kingdom particularly strange[1350]. The presence of Roman troops and tax collectors in the territory of a client state, if indeed the port was in Nabataean territory[1351], is not at all unprecedented[1352]. The purpose in this case was probably to prevent any evasion of the *vectigal Maris Rubri* and to insure that Roman ships used the two designated ports on the coast of Egypt, Myos Hormos and Berenice[1353], in which the government's monopoly on spices could be enforced[1354].

As will be shown elsewhere, there are many other datable allusions in the text of the 'Periplus'. All efforts to redate the work on the basis of what little we know about the political history of the regions on the Indian Ocean littoral must be rejected at this time[1355]. As noted above, the early history of Axum and Southwest Arabia have been drawn into the controversy[1356]. Similarly, it is still difficult to identify the Hadhramaut ruler mentioned in chapter 27 of the 'Periplus'[1357] with one of several like-named kings found in the South Arabian inscriptions[1358]. One startling fact revealed by the 'Periplus' and not attested elsewhere is the apparent sovereignty of Persis over Southeast Arabia[1359]. Our author is not well informed about the Persian Gulf, since he indicates that he never went there[1360], and his statements[1361] or omissions[1362] about this area do not have the same weight as about regions he personally visited. It must be remembered in all discussion of the 'Periplus' that where the author relies on reports of past events such as Alexander's conquests on the Ganges[1363], or on hearsay reports about regions he did not visit, he cannot be relied upon[1364]. This holds true for both the Persian Gulf and the East coast of India[1365].

Further east the 'Periplus' mentions a kingdom in Gedrosia not otherwise attested[1366]. At the mouth of the Indus the reign of Gondophares appears to be over[1367]. This is an assumption which is based on the confused picture of relatively short-lived rulers and governmental division which one may form from the coinage of Gondophares' Indo-Parthian successors[1368]. Even if one chooses not to connect the former with the king mentioned in the 'Acts of St. Thomas'[1369], the date for Gondophares[1370] and the latest extent of the entire Indo-Parthian dynasty in Sind scarcely reaches the early second century[1371]. In Northwest India the Kuṣāṇas follow immediately upon the heels of the Indo-Parthians[1372]. The chronological sequence is simply neglected by the advocates of a late date for the 'Periplus'[1373]. Further south in

Gujurat Mambanus is king[1374] and Kalliena is ruled by his governor, Sandanes[1375].

Apart from the identification of the spices, the date of the initial use of the Monsoon, and the date of the 'Periplus', there remains the largely economic problem of the Roman coins and other archaeological material found in India. This is a topic about which there has been much confusion and for which the quantity of available evidence continues to increase. The older studies by THURSTON, SEWELL, WARMINGTON, and WHEELER are now largely antiquated[1376] and offer only a rather naive and superficial analysis. A detailed discussion of hoards is not possible here due to the limitations of space[1377], but a few general points may be briefly mentioned.

Of the approximately 5,400 *denarii* which have come to light on the Indian subcontinent[1378], over 99.9% occur in hoards in the southern states of Mysore, Kerala, Madras (Tamil Nadu), and the southern portion of Andhra Pradesh. In fact, with the exception of the large Akkenpalli hoard[1379], no large find has come from the region north of the Kistna River. Similarly 98 % of the approximately 800 *aurei* have been found south of the Kistna[1380]. Very few of these coins have been found in systematic excavations of ancient sites[1381]; most have come to light by chance discovery and have therefore been particularly subject to dispersal[1382]. As a result to some extent the pattern of finds has been determined by the efficacy of British colonial administration in various areas[1383]. Such a factor would particularly influence the volume of finds in the Northwest where the local inhabitants were chronically prone to resisting British authority[1384]. As pointed out above, efforts to explain the absence of Roman coin finds in Northwest India by assuming that the Kuṣāṇas and Kṣatrapas melted them down for recoining are of very dubious validity[1385].

Roman coins do not appear to have been entirely unknown in the regions of India which have not yet produced any large hoards. *Bullae*, usually of clay, but occasionally in silver and gold, bearing the obverse of a Roman coin including, sometimes, traces of crude imitations of the inscriptions, have been found at numerous sites in India[1386]. Since these *bullae* appear to be more or less barbarized imitations of the portraits on Roman imperial coins, their wide popularity suggests a familiarity with, if not in fact a fairly wide circulation of, Roman coinage[1387]. Frequently also the *aurei* themselves were pierced and worn about the neck or arms[1388]. The frequent use of *dinara* in Indian literature and inscriptions similarly implies their common use[1389].

Roman Republican coins are rarely found in India. They primarily occur in *stupa* deposits which, as was pointed out above[1390], quite possibly do not contain coins which have come to India in international commerce. These deposits appear far more to reflect the contemporary pattern of circulation in the Roman Empire itself[1391] than the large commercial hoards of the south which possess a distinctive chronological structure later than that of contemporary hoards in the Roman Empire. All of the *denarii* found in south India fall into the period from Augustus to Nero[1392]. The hoards form a pattern beginning with those containing only Augustan coins[1393] and ending with hoards containing primarily coins of Augustus and Tiberius[1394] as well as a few coins of the later Julio-Claudians including Nero[1395]. Invariably the *denarii* of the first two emperors constitute the bulk of every discovered hoard and frequently almost all of the coins are of one of two types[1396]: the Caius and Lucius Caesar type of Augustus and the seated-figure type of Tiberius[1397]. The coins of Nero are exceedingly rare and usually come from the earliest years of his reign, and none postdates the reform of A. D. 63/64[1398]. The chronological structure of these hoards has been the subject of an important study by the Swedish numismatist, STURE BOLIN[1399]. After an analysis of the Roman coin hoards in Germany, where he concluded that better quality early Julio-Claudian *denarii* were imported until the reign of Trajan[1400], BOLIN came to a similar conclusion about the coin hoards found in India[1401]. It is argued that the earlier, heavier coins were preferred, since Roman coins were accepted only as bullion in India, and that we know of the actual chronology of these hoards from the latest coins found. The analysis is confirmed by the total absence of the reformed coinage of Nero in India. This thesis was adopted by MACDOWALL, who argued that, since Domitian restored the weight of the *denarius*, the importation of Roman silver into India did not cease until Trajan called in the Julio-Claudian silver then in circulation[1402]. On the basis of this analysis MACDOWALL proposed that chapter 49 of the 'Periplus', which notes that Roman coinage is exchanged to advantage against the native currency at Barygaza[1403], must have a terminus ante quem of A. D. 98[1404].

Little of this can be retained. BOLIN's analysis is based on combining the silver and gold hoards and using the coins in the latter hoards to fix the date of importation of coins in both metals[1405]. In fact, a study of the commercial hoards reveals that the *denarii* occur as late as the early years of Nero, while most of the *aurei* fall into the Flavian period[1406]. A more natural interpretation of this pattern, and one suggested by the good condition of the coins in many of the hoards, is that when *denarii* ceased to be imported in the reign of Nero, large numbers of *aurei* were used instead[1407]. Only a single commercial hoard fits BOLIN's analysis, the 1946 Eyyal find containing 12 *aurei*, one of Trajan, the others Tiberius to Nero, 71 *denarii* (Republic to Nero), and 34 silver punch-marked coins[1408]. The presence of the local Indian coins suggests that the Eyyal hoard was collected from the coins then available in India and thus does not indicate that the Julio-Claudian *denarii* were imported at the same time as the *aureus* of Trajan[1409]. Nor has BOLIN's analysis of the German hoards, the model for the Indian study, been sustained by subsequent finds[1410]. His dating of the key Libčeves hoard has been moved from the second century of our era to the first century B. C.[1411]. Subsequent finds in Denmark[1412], Germany[1413] and Central Europe[1414] have also not confirmed BOLIN's conclusions.

If one leaves aside the possibility, which cannot be documented, that the hoards are the product of a period of warfare or civil disturbance[1415], one may at first glance be tempted to attribute the cessation of the import of *denarii* to the debasement and concomitant decrease in weight of the silver coinage by Nero in A.D. 63/64[1416]. The coin hoards themselves suggest an earlier date[1417]. It must be remembered that almost all of the *denarii* of Augustus and Tiberius, and thus a great part of all of the coins found are of only two types as mentioned above. It therefore seems quite possible that when a sufficient number of the coins could no longer be easily found within the Empire, the Indians refused to accept Roman *denarii*. Such preferences for certain types of coins are not historically unique. In the fourth century B. C. virutally the only coin in use in the Pontic regions was the Cyzicene *stater*[1418], an electrum coin which varied surprisingly in fineness[1419]. The German tribes in Tacitus' day were reputed to have a marked preference for the Republican *serrati* and *bigati*[1420] and this has been confirmed by the hoards[1421]. How the Indians' preference became established is unclear[1422]. The particular Augustan and Tiberian types involved are of no greater fineness than other coins of both emperors[1342] and they were significantly lighter than the early issues of the Augustan moneyers in Rome[1424]. It seems virtually certain that Roman coins were generally treated as bullion in India[1425], that is, they were measured by weight, yet even in a situation like this certain coin types can enjoy a psychological advantage which causes them to be received at a premium above their actual fine metal value[1426].

It is, however, difficult to judge when the preferred Augustan and Tiberian types began to be in short supply in the Roman Empire. The shortage of Julio-Claudian coin hoards is notorious; in fact, BOLIN cites none[1427]. It appears that the fine early Julio-Claudian coins went out of currency very quickly. The majority of the coins in circulation at all times during the Julio-Claudian period were Republican *denarii*[1428] and the lower quality Eastern issues of Mark Antony[1429]. On the German *limes* the *denarii* of Augustus and Tiberius were apparently in circulation for only a short time[1430] and in the East they are rare at all times[1431]. By A.D. 79 when the eruption of Vesuvius presents us with a good picture of the coinage of Campania in that year, the types of Augustus and Tiberius used in the India trade are rare[1432].

Specific gravity analysis[1433] as well as physical and chemical tests[1434] of the *denarii* yield some interesting results. The issues of Augustus and Tiberius from the mint at Lugdunum are of high quality, but certainly not uniformly so[1435]. A decrease in weight and fineness is to be noted already in the coinage of Claudius and the pre-reform issues of Nero[1436]. The latter's reform is marked by a further decrease in weight and a debasement of about 10 %[1437]. What is damaging to BOLIN's analysis is that the fineness and weight of the post-reform issues of Nero appears to have been retained or even further decreased under Vespasian and Titus[1438]. The *denarii* of Domitian show a slight improvement in fineness but only to the level of the post reform issues of Nero[1439].

At present it is uncertain at what stage most of the preferred coins of Augustus and Tiberius went out of circulation[1440]. Circulating as they did beside large numbers of poorer quality Republican and triumviral issues[1441], they may have presented a considerable temptation to both private individuals and the imperial government who might wish to melt them down. It is conceivable that Trajan's melting down of Julio-Claudian *denarii*[1442] for recoinage was not unprecedented[1443]. It thus appears that the export of large numbers of the preferred type of coins to India may have ceased to be a viable proposition already in the reign of Nero. At this stage gold *aurei*, which retained their superior fineness throughout the Imperial period[1444], were used as a partial substitute.

The detailed mechanics of this export of coinage to India is still not entirely understood. In the past various theories have given the Imperial government a prominent role: the mint deliberately struck plated *denarii* for the unsophisticated Indians[1445]; the Imperial mint, on the analogy of the Maria Theresa *thaler* of 1780[1446], continued to strike the preferred coin types especially for export to India[1447] and the Roman government exported large quantities of coinage in a deliberate effort to establish a commercial coinage in India[1448]. All of this speculation may now be dismissed. The Imperial government seems to have done nothing to facilitate the financial transactions in the India trade and some of its policies and practices may well have been a hindrance. A fact which is little noted is the origin of the coinage exported to India. Some scholars have assumed that it was the Alexandrian tetradrachms which were sent to India[1449]. The Roman conquerors of Egypt permitted the continued circulation of Ptolemaic coinage[1450] and under Tiberius began to strike billon tetradrachms at Alexandria on the Ptolemaic standard[1451]. Initially containing 25 % silver, these coins were steadily debased[1452]. It is usually said that they are acceptable currency only in Egypt[1453], but in fact they are found singly and in hoards at a considerable number of sites on the northern *limes*[1454]. The troops stationed in Egypt were apparently at least in part paid in this currency[1455], but how the situation was handled when contingents of the Egyptian garrison, such as the *legio Cyrenaica III*, whose troops served in Cyrene[1456], Syria[1457], and possibly Arabia[1458], were dispatched outside the province is uncertain. The vast majority of all of the coins found in Egypt from the period before A. D. 296, when Diocletian gave Egypt the same coinage as the rest of the Empire[1459], was struck at the mint in Alexandria and almost all of the papyri, both Greek and Latin, attest only to the use of Alexandrian tetradrachms[1460]. There are, however, a number of hoards and site finds of *denarii* and *aurei*[1461] and a single document refers to the collection of taxes in non-Alexandrian currency[1462]. It appears that the exchange of Imperial for Egyptian currency was supervised by the government[1463], and that a severe punishment was imposed for failure to use the bankers and money-changers operating under government licenses[1464]. It is a present difficult to reconcile these conflicting pieces of evidence to form a coherent picture of official imperial policy[1465]. Probably no coherent policy existed or was enforced[1466]. An understanding of the circulation of various coinages in Egypt is important, however, in analysing the attitude of the imperial government toward the export of coinage to India through that province.

The commercial hoards in India thus do not reflect the coinage in circulation at this time in Egypt, from where most of the coins were shipped[1467].

The preferred coin types were collected by money-changers in both the Near East and more probably in the western provinces[1468]. Issues of Roman coinage are primarily connected with military activity[1469] and by far the largest item in the imperial budget was the payment of the legions[1470]. It appears that provincial garrisons were paid largely in the coin collected in taxes in any given province and that only a small percentage of new coinage was used[1471]. Thus money-changers and bankers probably expended a great deal of effort in the selection of the preferred coin types from those which passed through their hands[1472]. When insufficient coins of the right type could be found, blanks could be substituted[1473]. The export of imperial coinage from Egypt and from Syria via Charax[1474] must have thus involved a financial network based in the western provinces. Such transactions were no doubt facilitated by colonies of Italian merchants in Alexandria[1475], men such as Annius Plocamus, who had Italian connections[1476], or by colonies of Syrians and Egyptians residing in Italy[1477] and other commercial centres in the West[1478].

When the preferred type of coins began to be in short supply, gold or bullion was substituted. Commerce all over the Middle East had for centuries before the Hellenistic period relied on bullion[1479], as both coined and uncoined metal[1480]. A significant reduction in the fineness of the silver involved in a transaction was detectable by use of a touchstone[1481]. Bullion was used in the commerce with India by those who did not have ready access to a high quality coinage[1482]. When the Augustan and Tiberian coins preferred by the Indians began to be in short supply, uncoined bullion either as ingots or in the form of objets d'art as well as *aurei* were substituted[1483]. When viewed in this light the Roman hoards in India cease to have very much chronological significance. They confirm the Julio- Claudian date of the 'Periplus'[1484] and definitely exclude any second or third century dates[1485], but they do not indicate a diminution in Roman trade after Nero, as some have supposed[1486]. There is no indication in either the literature of this period[1487] or in contemporary inscriptions that any decrease in prosperity or in the taste for extravagance and Oriental luxuries occurred[1488]. In fact, in Egypt at least it appears that the use of Indian spices in the third and fourth centuries was more widespread than at any previous time[1489].

The reason for Rome's imbalance of payments in the spice trade is frequently misunderstood. It is not that items like pepper were preposterously expensive when purchased in India[1490]. The use of imported spices was widespread. It is attested by frequent literary references[1491] and the discovery of pepper shakers[1492]. In Egypt itself it is not simply a question of a transit trade[1493]. Indian spices found their way to such relatively minor places as Tebtunis, Oxyrhynchus, and Heracleopolis Magna[1494]. The use of such imports in drugs, perfumes[1495], cooking[1496], and religious services[1497] seems to have accounted for the very large quantities mentioned in the 'Periplus'. We know little about the prices charged for these imports. Pliny has a price list which is usually accepted by modern scholars, but here, too, caution is necessary[1498]. The medieval spice trade along the same routes is far better documented[1499] and a study of this material suggests that tremendous fluctuations in prices could occur by the destruction of a convoy[1500], the failure of a caravan to arrive on time in the Egyptian markets to catch the last ships of the season leaving for Italy[1501], warfare or piracy anywhere along the route[1502], hoarding and speculation[1503], or variations in the size of the crop in the producing regions[1504]. All of these factors must have come into play in antiquity as well[1505]. There is no reason to believe that prices always remained stable in the long or short term[1506] while the prices of other commodities such as wheat fluctuated wildly[1507].

Even if the price of these imports was high in Rome, the original sum paid to the producers need not have been exorbitant. It must be remembered that shipping charges were high[1508]. Loans to finance voyages in such dangerous waters may have been subject to high interest rates[1509]. Apart from bad weather and reefs in the Red Sea, the tropical waters of the Indian Ocean probably caused a high attrition rate among the ships in use[1510]. When the cargo was shipped overland, after the sea voyage, through Mesopotamia and Syria or the Eastern Desert of Egypt or along the caravan routes of Arabia the enormous expense of land transportation became a factor[1511]. The merchants themselves made a profit, although doubtlessly not on the scale which many authorities, misunderstanding the figures given by Chinese sources, believe[1512]. Processing of the raw product in centres such as Alexandria[1513] and Puteoli[1514] added to the price. A further factor was the taxes charged by the imperial government: 25 % for the *vectigal Maris Rubri*[1515], charges for desert escort[1516], for the procurement of passports in the Eastern Desert[1517], possibly a tax at each nome boundary in Egypt[1518], municipal transit tolls, such as those at Palmyra[1519], various imposts for shipping on the Nile[1520], harbour and export dues in Alexandria[1521], and *portoria* in every port of call from there to the final destination[1522]. No matter by which route the goods entered the Empire, such imposts were encountered[1523]. The charges levied in Indian ports[1524], in Arabia[1525], or on the Parthian frontier[1526] pale by comparison. It is easy to visualize that a 100 % increase in the price of a product could come about simply from the taxes levied within the Roman Empire[1527]. Again it is necessary to point out, as was done above in the study of the middlemen, that most of the money which made up the final price of a product in Rome probably ended up in the hands of Roman citizens and the imperial government[1528].

The role of Roman *denarii* and *aurei* in Southern India is also imperfectly understood. First, the reason why such coins were imported in the first place. Southern India was a considerably less civilized region than the areas inhabited by the Indo-Parthians and Kuṣāṇas in the North. Iron and coinage came first in India to the Northeast and then the Northwest[1529]. The South did not enter the Iron Age until the last centuries of the first millennium B.C.[1530]. At some sites, in fact, the Rouletted Ware contemporary with the Roman imperial period is found in the stratum directly above the last megalithic remains[1531]. The relative poverty of the south is suggested by the nature of the imports listed in the 'Periplus': little wine, metals, coarse glass, inexpensive textiles[1532]. The expensive luxury items which were so important in the North[1533] could not be absorbed by the poorer, less socially and economically developed South[1534]. Southern India was at an intermediate stage between East Africa, which was just entering the Iron Age[1535] and thus was able to absorb basic Roman industrial commodities, such as bronze and iron, as well as arms and cheap textiles in sufficient quantities to offset Roman exports from this area[1536], and Northern India with its urban centres and large, partially Hellenized aristocracy[1537]. Southern Arabia, where imports of Roman manufactured articles and other commodities, such as horses and *objets d'art*[1538], seem to have paid for most of the frankincense and myrrh exported by sea[1539], must be placed in the latter category also. It may thus be argued that a low level of socio-economic development combined with the production of large quantities of a commodity much in demand in Rome led to the favourable trade balance which the area enjoyed[1540]. The trade in spices seems to me to have been a far more important factor in this regard than the trade in precious stones such as beryl or pearls[1541], both of which products were also available on or within the frontiers of the Empire[1542].

The importance of Roman commodities such as wine, pottery, bronzes, and *objets d'art*, as well as some types of glass is well attested archaeologically at a number of sites apart from Arikamedu[1543]: Kolhapur[1544], Nevasa[1545], Maheshwar[1546], Taxila[1547], and other sites[1548]. An interesting phenomenon soon occurs. The imported Roman pottery is soon widely imitated in India by a red Rouletted Ware, which is found at a great number of sites from this period[1549]. Similarly the production of glass once rare in India[1550] became more widespread[1551]. We may, therefore, be witnessing here a phenomenon which occured also in the western provinces of the Roman Empire, the production of local imitations or substitutes for imports from Italy and the East[1552].

The local Indian currency of the North differed considerably from that of the South[1553]. In addition to large numbers of silver punch-marked coins[1554] there circulated various tribal coinages[1555] as well as Indo-Greek[1556], Indo-Parthian[1557], Sātavāhana[1558], Western Kṣatrapa[1559], and later, Kuṣāṇa coins[1560]. In the South there were only silver punchmarked coins, which are, however, rarely found south of the Kistna[1561], and the lead and potin coins of the Sātavāhanas (Andhras)[1562]. It is frequently asserted that India possessed no gold currency before the Kuṣāṇas[1563], but this is incorrect. Apart from the rare gold staters of Menander and other Indo-Bactrian rulers[1564], native gold coin called the κάλτις in the 'Periplus' existed in the Ganges Valley[1565]. It is occasionally argued that this gold coinage of the Northeast is struck in imitation of the Kuṣāṇa gold *stater*, which already existed when the 'Periplus' was written[1566]. One must remember that archaeologically the final word is not in on the pre-Kuṣāṇa gold coinage of India[1567]. Similarly the meaning of *suvarṇa*, later meaning 'gold piece', in the Nasik inscriptions, has still to be convincingly explained[1568]. In the South, where most of the Roman coinage was imported, the dominant native coinage was the silver punch-marked coin[1569], occasionally lead Sātavāhana coins[1570], and even cowrie shells[1571].

As the *denarii* and *aurei* arrived, the obverse bearing the emperor's portrait was often struck with a chisel, apparently to cancel out the initial issuing authority rather than to test if the coin was plated[1572]. Furthermore, many of the *denarii* in the Akkenpalli hoard were struck with from one to five punch-marks[1573]. These marks were definitely put on the coins in India[1574], but by what authority is uncertain, since they bear little similarity to the punch-marks found on most Indian punch-marked coins[1575]. Possibly these are the marks of Indian banking or commercial guilds[1576] rather than of one or another of the South Indian kingdoms[1577]. The *denarii* circulated to a limited extent in the South and occur in a number of hoards together with local punch-marked coins[1578]. As the import of *denarii* decreased or ceased, Indian imitations in silver of the two preferred Augustan and Tiberian types came into existence[1579]. These were characterized by the usual poor workmanship and barbarized lettering evident in similar imitations of these coins found in the regions north of the Danube[1580] and in Iberia[1581]. One might be tempted to speculate whether some of these imitations may not have been the work of Roman money-changers trying to fulfil the demand for this type of coin in the India trade, but such imitations, even for export, would have been classed as counterfeits[1582] and, as far as we know, most of such imitations within the Roman Empire were either plated or cast hybrids[1583]. Similar counterfeiting techniques to these were used in India[1584]. but the imitation *denarii* were struck from locally-made dies. At a later date Roman *aurei* too began to be imitated in southern India[1585]. The date of the original type imitated by such coins, however, may furnish simply a terminus post quem for such counterfeiting. In an analagous situation in Iberia the same Augustan and Tiberian types were still being imitated in the third century[1586]. In both regions one may tentatively conclude from the fact that the imitations were struck rather than cast and were frequently of high quality that they are the issues of some governmental authority rather than of private individuals.

Although Roman silver is never again imported into India after the Julio-Claudian period and gold becomes increasingly rare after the Severan era[1587], large numbers of fourth century Roman bronze coins have been found at Madras[1588]. Ceylon, where excavation to date has been minimal and which has yielded few Roman coins from the first and second centuries[1589], shares this phenomenon[1590]. At both Madras and at more than a dozen sites in Ceylon[1591] Roman copper pieces and local imitations of fourth and fifth century dates are found in great abundance[1592]. In fact they are so numerous that speculation has linked them with Roman settlements in both areas[1593]. This seems unlikely, at least in the case of Ceylon, since it appears that there for a time Roman bronze was the major currency on the island[1594]. The prevalence of imperial bronze from a large number of mints[1595] does, however, represent the pattern of circulation which developed in Egypt in the fourth and fifth centuries[1596].

In general one should not be exceedingly impressed either by the total number of Roman coins found in India or by the size of the hoards. Larger hoards have come to light in Germany, Poland, and other areas on the periphery of the Roman Empire, and the few score sites at which Roman coins have been unearthed in India may be compared with the many hundreds of sites in these regions[1597].

The explanation for the bronze imitations of Roman coins noted above, that is, the possibility of Roman merchants settling in India, deserves further consideration. Apart from vague traditions about early settlements of Jews after the destruction of the Second Temple[1598] and the controversial tradition in the 'Acts of St. Thomas' of early Christian converts in India[1599] we possess reliable factual information about such settlements. Ptolemy mentions that Greeks resided in India for extensive periods of time[1600]. General historical probability also favours the idea. In the eighth to sixth centuries B.C., when the Greeks settled widely in the Mediterranean, they readily lived as merchants in already established cities at Near Eastern sites, such as Al Mina[1601], or in communities granted to them under certain conditions by local rulers, such as Naucratis in Egypt[1602]. Also Greeks served as mercenaries in Egypt[1603] and elsewhere in the Near East[1604] or as skilled craftsmen, like the many Ionian workmen found in the Persepolis tablets from the Achaemenid period[1605]. Frequently, as for example at Naucratis and later at merchant colonies within the Roman Empire or in the enclaves in the Parthian city of Vologesias, temples were built[1606]. General probability thus favours the acceptance of the notice in the 'Peutinger Table', long treated with scepticism, that Muziris had a *templum Augusti*[1607]. The Tamil poems of the early centuries of our era speak of the coming of *Yavāna* merchants who settled in certain quarters of the coastal cities and others who came to take up mercenary service with Indian princes or to be employed as skilled craftsmen[1608]. The picture is similar to that of Greek penetration in the Near East[1609], but a thorny problem remains in the precise meaning of *Yavāna* in India in various time periods[1610].

Speculation has also been aroused by the manner in which Indian monarchs regulated their relations with Roman merchants[1611]. It is clear from the 'Periplus' that the rulers of Barygaza in the first century carefully made provision for the protection and piloting of foreign ships[1612] and also determined at which ports they were permitted to land[1613]. The picture of India found in the 'Arthaśāstra' indicates close and careful government supervision of the economy, but to what extent this reflects the real situation on the subcontinent at any time in antiquity is open to considerable doubt[1614]. Apart from this it is probable that foreigners including merchants were under some form of supervision[1615] and that gifts to the kings were important for gaining concessions for individual merchants[1616].

The designation of a certain port as the exclusive mart for foreign merchants is known as the 'port of trade' phenomenon and is widely attested in many diverse regions and in many different historical eras[1617]. Such regulations are attested for both Pharaonic[1618] and Ptolemaic[1619] Egypt and in the Hellenistic world were the subject of international agreements[1620]. The granting of access to Roman territory to foreign merchants was seen in Rome as a legitimate subject for international agreements[1621], but it is not known whether the imperial government took steps to assure Roman subjects access to other kingdoms[1622]. We know of a number of Indian embassies to the West, particularly in the reign of Augustus[1623], but we have unfortunately few details, since our sources concentrate primarily on the bizarre and exotic[1624]. The language used by such embassies was probably Greek[1625] and we possess little evidence that anyone in the Mediterranean world mastered an Indian language[1626].

On the broad subject of the cultural impact of commercial and diplomatic contact between Rome and India a vast literature exists. Many scholars have attempted to trace the impact of Buddhism on the West[1627], or to see a significant effect of Indian metaphysical doctrines on various early Christian notables[1628]. In general, in most studies of this type, supposition and hypothesis greatly transcend the factual basis upon which they should rest[1629].

Our knowledge of the spice trade east of India is deficient and unreliable. Two overland routes have been suggested from the Bay of Bengal to southwestern China: one along the course of the Burma road and then down the Irrawaddy, and a second through northern Burma into Assam[1630]. The existence of either one or both of these routes is frequently disputed[1631], but there is sufficient evidence to justify the assertion that at least one of these routes was intermittently in use in Antiquity[1632].

There also exists little evidence for an evaluation of the importance of the maritime trade with the Far East. In our sources the knowledge of the sea route to China and Southeast Asia is vague at best. The author of the 'Periplus' knows only dimly of a land east of India called Χρυσῆ (ἤπειρος)[1633] — others are even less well informed[1634]. Only Ptolemy, who for much of the East relies on merchants' itineraries[1635], has any details about the Golden Chersonese[1636], now usually identified with the Malay Peninsula[1637], and the great port of Kattigara which lies beyond[1638]. There is nothing to suggest that regular voyages were made to that remote place by Roman merchants[1639]. A Roman lamp has been found at P'ong Tük[1640] and western seals and coins have come to light in small numbers at Oc-eo and other sites[1641]. Oc-eo was probably the major port of Funan[1642] and has been identified by some with Kattigara[1643]. None of these Roman finds mentioned above come from certainly dated contexts[1644]. Other allegedly 'Roman' artifacts have also been reported from islands in the Pacific such as the Philippines and Palau[1645].

The great emphasis which was once placed on the evidence furnished by glass beads from various sites in Malaya, Thailand, Sumatra, Java, and Borneo to prove Mediterranean contacts has been shown to be misguided[1646], although some still place their faith in the chronological value of such material[1647]. Beads, because of their ornamental value and frequent religious associations, could remain in use for many centuries before being lost or buried, could be excavated and re-used by treasure-hunting natives, or could be imitated long after the date of manufacture of the originals[1648]. Excavations at Southeast Asian and Indonesian sites in the past three decades have revealed a completely different picture from that accepted a generation ago. With the exception of the bead finds from Oc-eo and sites dependent on it[1649], where Indian imports and local production complicate the picture[1650], all of our material can be eliminated from consideration in studying Roman trade. The bead finds of Vietnam[1651] all come from sites showing Chinese settlement or influence and date to a period of Chinese expansion and migration into the area[1652]. One may reasonably suppose that China is the immediate land of origin of these glass beads[1653]. At most other sites in Malaya[1654], Java[1655], Sumatra[1656], and particularly in the well stratified excavations of the Niah caves and Sarawak Delta of Southwest Borneo[1657], as well as in Formosa[1658] and in the Philippines[1659], the time of arrival of what were once described as 'Roman' beads coincides approximately with the introduction of iron and the use of imported T'ang through Sung ceramics and stoneware[1660]. The origin of many of these beads is generally assumed to be similar to that of the Near Eastern glass found at several large seventh to fourteenth century entrepôt sites in Malaya[1661]. The earlier portions of this period overlap with an era of Indian cultural influence, the impact of which is relatively slight in areas such as Borneo, but more intense and earlier in Thailand[1662]. This stage, too, is characterized by imported goods, but in considerably smaller quantity, and at some sites glass beads may have arrived at this time[1663].

The Indians traded extensively with Southeast Asia in the early centuries of the Christian era[1664] and by the fourth and fifth centuries or later had settled in Malaya[1665] and Indo-China[1666], as well as in the islands of Indonesia[1667], even as far as Borneo[1668], in sufficient numbers to affect permanently the cultural development of these regions[1669]. The motivation behind this trade and migration still remains obscure. The search for gold and other metals is generally regarded by modern scholars as a major cause[1670], but ancient tradition places some emphasis on political exiles[1671]. It must be remembered that it is quite possible that many, if not all, of the Roman artifacts found in Indo-China may have been brought there not by traders but by Indian immigrants from those areas of India to which Roman goods were imported[1672]. Nor is the chronology of this movement secure. Indian sites in Southeast Asia are difficult to date, since early structures may have been of wood and have completely disappeared, and because the discovery of artifacts of early manufacture, particularly Buddhist images, does not preclude the considerably later importation of these items into this area[1673]. The earliest inscriptions are dated palaeographically and thus are of limited chronological importance[1674]. Dated inscriptions only begin to be attested in the sixth century[1675]. Indian literature, because of the insecure date of many works, is of little help and the date suggested above is the most acceptable period for the main bulk of Indian migration to this region[1676]. Such a migration would have been preceded by several centuries of commercial contact[1677]. Future archaeological discoveries may, of course, lower this date somewhat, but the most recent explorations of sites in Southern Thailand[1678], and in Kedah[1679], Malaya[1680] as well as Borneo[1681] have tended to reveal a picture similar to that discussed above in reference to the diffusion of glass beads: whatever traces of Indian influence are found tend to be approximately contemporary with or only slightly earlier than the arrival of T'ang ceramics and stoneware in the area[1682]. Thus, at present, theories about Indian migrations to Southeast Asia in the earliest centuries of the Christian era must rest on Chinese literary evidence[1683] and on the results of the Oc-eo excacations[1684].

The nature and extent of the indigenous cultures of Southeast Asia contemporary with the Roman Empire is still in the process of being determined[1685]. It is clear from Chinese literature that the southern neighbours of the Han were considerably more nautically advanced than the Chinese themselves[1686]. The indigenous Dong-son Bronze Age culture was widespread throughout Southeast Asia[1687] and at least in some areas was not replaced by the Iron Age until well into the Christian era[1688]. Whether the supposed maritime empire of Funan[1689] rose under the stimulus of Indian or Chinese organizational expertise, or whether it was a primarily indigenous growth, is still not clear[1690]. As a result of the new excavations of Non Nok Tha and the surprisingly early Bronze Age culture which this site seems to have revealed[1691], there is now some doubt if all of this region was economically and culturally less advanced than Northern India and China[1692].

Apart from the few artifacts mentioned above[1693], there is no trace that Roman trade or culture had any perceivable impact on this region. In fact, since all of these objects could just as easily have arrived with Indian settlers or merchants, we are left with only literary evidence, both Chinese and Roman[1694], for the infrequent visits of Roman merchants to this part of the world. There exists to date no evidence that Roman ships regularly frequented the ports of Funan or southern China as some have supposed[1695].

V. Conclusion

The four studies above highlight some of the major problems encountered not only in dealing with Roman commerce with the East, but also in the study of ancient economic history generally. A wide variety of evidence exists — literary, epigraphic, archaeological, numismatic, linguistic — all of which must be taken into consideration and carefully examined if meaningful conclusions are to be reached. In the foregoing no effort has been made to enumerate and evaluate all of the evidence available for our subject — such a task requires more time and space than is presently at my disposal — but it is hoped that several key problem areas have been elucidated. Most important, it has, I think, become clear that the history of both the silk and the spice trade must in future be studied within the contextual framework of the socio-economic and political systems which existed in Antiquity in all of the geographic regions touched by the trade.

As should be apparent from the investigation above, much of the study of the geographical extent of ancient commerce depends on archaeological evidence. Many historians of Rome's eastern trade have yet to comprehend the limitations inherent in the use of such material: that is, the basic principles long familiar to students of early Greek history[1696]. Artifacts in themselves are frequently incapable of revealing anything of economic significance; neither the means by which nor with whom they arrived at the spot where they were found[1697]. A whole host of alternatives to commerce may be documented. The importation of Greek craftsmen has left its impact on the art and architecture of Achaemenid Persia[1698]. Such craftsmen or mercenaries may have brought with them small personal possessions such as seals, or they may have produced them in Persia[1699]. A variety of possibilities exist and there is no reason to attribute, for example, the Greek gems found at Taxila to early international trade[1700]. Other factors must also be considered. As was pointed out above[1701], mass deportations of captured peoples are not an uncommon phenomenon in Asian history[1702]. In this way one may explain the fine examples of late Roman art from the Sasanian city of Bishapur[1703]. The craftsmen responsible were part of the population of Antioch which was deported into Iran by Shapur I[1704] after his capture of the city in 259/60[1705].

Population movements could also have their origins in religious persecutions. Thus the destruction of the Second Temple resulted in a Jewish diaspora beyond the frontiers of the Roman Empire[1706], just as the periodic persecution of Christians caused comparable movements[1707]. A similar flight must have occurred in the late third century when Zoroastrians attacked Jews, Christians, and Buddhists in the Sasanian Empire[1708]. From the archaeological point of view, the same result could be achieved by other religiously inspired travel. Thus Buddhist monks journeyed extensively in Central Asia[1709] and possibly even to the Roman East[1710]. Thousands of Jewish pilgrims from Mesopotamia travelled to Jerusalem[1711]. Small personal objects, such as beads, seals, or a few coins, would be particularly subject to non-commercial transmission[1712]. It is only when all of the alternative documented possibilities are considered that we may arrive at a proper understanding of the limitations which exist in the interpretation of archaeological artifacts.

Furthermore, the volume of discovered archaeological material in a well excavated region is not a reliable index for the briskness of trade. As was noted earlier, there existed a considerable commerce between India and the Roman Empire, yet Indian artifacts are virtually absent from the Mediterranean region: a small ivory statuette from Pompeii[1713] and a few scraps of cotton and silk[1714]. Chinese artifacts from securely dated contexts are non-existent. The nineteenth century produced a number of such finds; all were subsequently shown to be erroneous or fraudulent[1715]. In this century a Han dynasty *hu* has come to light at Canterbury[1716], a Huai bronze in a garden at Rome[1717], an ivory statuette possibly of Asian origin from the Ostia excavations[1718], and a small bronze vessel with silver inlay was hauled out of the sea near Anzio[1719]. With the exception of the Ostia and Pompeii statuettes and the textile finds noted above, there is thus no archaeological evidence to suggest that for at least two centuries the Roman Empire was in close commercial contact with India.

Our concern has been primarily with the development of the trade in silk and spices and it remains but to chronicle briefly its decline. Most scholars posit a marked deterioration or a collapse of Roman trade with the East in the third and fourth centuries of the present era[1720]. To some extent good sense is on their side. The great centres of this commerce were in ruins and the trade routes were impeded by warfare and treaty. Coptos was destroyed by Diocletian in c. A.D. 297, the Roman frontier was moved northwards[1721] under pressure from the Blemmyes[1722] and Nobades[1723], who appear to have replaced the more passive Meroitic kingdom on Egypt's southern frontier[1724] and in the fourth and fifth centuries some of the mines of the Eastern Desert and thus also Berenice[1725] and possibly part of the road to Myos Hormos[1726] fell under Blemmye control.

The second great trade route was similarly menaced. Palmyra, after a brief period as political mistress of the Roman East[1727], was sacked by Aurelian in A.D. 273 and the city never recovered[1728]. With the rise of the Sasanian dynasty in the early third century a vigorous and unified power appeared on Rome's eastern frontier[1729]. The dynasty of Ardashir put an end to the independence which the nominal vassals of the Arsacids had enjoyed[1730]. The frontier was heavily fortified on both sides[1731] and the caravans no longer passed freely to the ports of the Persian Gulf[1732]. Worse yet, the opposing armies sacked such commercial centres as Antioch[1733], Dura[1734], Hatra[1735], and Emesa[1736]. It is only reasonable to conclude that all of this had a debilitating effect on international commerce[1736a].

Our sources for the sixth century frequently make mention of the silk trade[1737], but it must be remembered that this may not reflect the vigour of oriental commerce at this time[1738]. In the late Empire silk had increasingly assumed an important role in social status designation and in the imperial cult[1739]. As a result, the maintenance of the imperial dignity became, to some extent, connected with the availability of silk[1740]. Finally, under Justinian silk was made an imperial monopoly[1741]. There is also evidence for an increase in Byzantine international commerce in the sixth and seventh centuries[1742], but the history of this phase of oriental commerce has been written by others[1743]. Any such Byzantine trade was, however, on a definitely lesser scale than Roman commerce with India in the first three centuries of the Empire[1744]. In the later period it was no longer the subjects of Rome but rather those of the Sasanian Empire who were dominant in the commerce of the Indian Ocean[1745].

A quantitive approach to the evidence may provide some insight, but caution is necessary: cliometrics is of dubious value in a period for which the quality and quantity of the primary evidence is determined by the random nature of the discovery and publication of papyri, inscriptions, coins, and other archaeological artifacts. If we look at the same types of primary evidence in a later chronological framework — let us say from the sixth through twelfth centuries — the Eastern trade of the Roman period is put into a different perspective. While long distance commerce in the Mediterranean world had considerably declined from its heyday under the Roman Empire, Central Asia and the littoral of the Indian Ocean and South China Sea appear from all indications to have been the scene of an unprecedented upsurge in commercial activity[1746]. Sites in Malaya[1747], Borneo[1748], Java[1749], Sumatra[1750], the Philippines[1751], the Indian Subcontinent[1752], Persia [1753], East Africa[1754], and Central Asia[1755] have all yielded quantities of T'ang and Sung porcelain and stoneware as well as Chinese coins and other artifacts. The magnitude of this material dwarfs anything so far discovered of Roman or Han origin in these same regions[1756]. Chinese historical sources remark upon a significant increase in the number of tribute missions from distant lands, a commonly accepted barometer of the fortunes of foreign commerce with China[1757]. Chinese and Indian sources mention the travels of large numbers of Buddhist monks between the two countries by land and sea, frequently in the company of merchants[1758]. Chinese art and literature shows a dramatic new awareness of foreign visitors, particularly merchants and residents in China[1759] as well as of new foreign products[1760]. Colonies of foreigners, Arabs and Persians, are well documented in Southeast Asia and China[1761]. Nor were only Chinese material objects involved. Persian glass and pottery and Abasid dinars have been excavated in various parts of the Arabian peninsula[1762], Northwest India[1763], East Africa[1764], Malaya[1765], and Borneo[1766].

A simultaneous and probably not unrelated development occurs in Southeast Asia with the rise in the seventh century of the great maritime empire of Srivijaya[1767]. The period is marked by a considerable increase in the population density of the region as a whole[1768]. It would appear that in this era of commercial expansion the exploitation of the mineral wealth of the region, gold, tin, iron, and possibly quicksilver[1769], was as important as the trade in luxury goods[1770] .

This abundant evidence of commercial prosperity indicates that the collapse of the Roman Empire and the subsequent loss of much of western Europe as a market for Oriental imports during the early Middle Ages[1771] did not substantially retard the economic development of the Indian Ocean littoral. Quite possibly we have here further evidence that, with the exception of the spice trade with southern India, which at its height was conducted on a very substantial scale indeed, Roman trade with the East had little impact on the economies of ancient Central and East Asia.

Appendix: The Roman City in China

In 1957 a little book appeared, the publication of H. H. DUBS' lecture before the China Society in 1955[1772]. The work of a prominent sinologist, it purveyed the final form of a rather curious thesis: in the last years of the Former Han Dynasty a group of captive Romans established a colony on the frontiers of China. The theory is a bizarre flight of fancy, but since it has gained acceptance in some surprising quarters[1773], it merits a brief discussion, if only to prevent further errors. The fantasy has an interesting history.

In 36 B. C. the *Shan-yü* Chih-chih of the defeated Northern Hsiung-nu fled westwards with a few thousand of his followers to the vicinity of the Talas Valley[1774] where they were given sanctuary by the ruler of Sogdiana. The Chinese commander Ch'en T'ang, who pursued him there, succeeded in capturing Chih-chih's new stronghold and returned to China with 145 prisoners[1775]. In that year the victorious Han commander exhibited *t'u-shu* (charts and documents) of the subjection of Chih-chih. The *t'u-shu* appear to have been paintings of the battle. DUYVENDAK drew attention to this as a new departure in Chinese art and it is from these that the detailed description of the fighting in the 'Han Shu' was taken[1776]. DUBS, commenting on DUYVENDAK's article, noted that in the description of the battle there appear on Chih-chih's side a small force of infantry lined up in a 'fish-scale formation' (*yü-lin-chen*) and suggested that these were Sogdians trained to fight in a phalanx[1777]. Aided and abetted by TARN, DUBS went one step further, arguing that the 'fish-scale formation' represented the Roman *testudo* formation and that the infantry in the *Shan-yü*'s army were legionaries captured at Carrhae by the Parthians and now serving the Hsiung-nu[1778]. The peculiar description of the infantry and the fact that the Hsiung-nu fortress had a double wall led DUBS and TARN to conclude that Romans had definitely been involved in the fighting. The 145 prisoners mentioned in the Chinese account were taken by DUBS to be the supposedly Roman infantry force.

DUBS continued working on his thesis[1779]. In its final form he added a further detail. The 'Han Annals'[1780] mention the existence in A. D. 5 of a city Li-hsien or Li-chien, usually considered to be the Chinese equivalent for Alexandria[1781]. Here, argued DUBS, was the town founded by the Roman captives. The thesis met with a mixed reception[1782]. Sceptics, dubious about some details, did not, however, challenge DUBS' assertion about the presence of Roman mercenaries at the Talas Valley battle.

The entire thesis can be rejected for many reasons. To begin with, the text. The phrase *yü-lin-chen* is a Chinese *hapax legomenon* and DUBS' explanation of it drew the criticism of other sinologists[1783]. Next, the city and *hsien* named Li-chien in Chang-yeh Province (modern Kansu); it appears never to have struck DUBS as particularly strange that these Romans should name their city Alexandria. YING-SHIH YÜ has pointed out that the description of Li-chien as an ordinary *hsien* was not in keeping with Han practice in regard to communities of foreigners[1784]. Furthermore, the idea that surrendered Romans resided at Li-chien appears to have originated in a note on the 'Han Shu' by the Ch'ing scholar, Wu Cho-hsin[1785].

Nor do the arguments of Tarn seem convincing. The fate of Crassus' captured troops of course excited some speculation already in Antiquity[1786]. Modern scholars have suggested that they worked on the fortifications of the Parthian city of Merv[1787]. The survivors of Carrhae would, in fact, have been rather old for further military service in 36/35 B. C. Most of Crassus' troops had previously belonged to the army of Gabinius in Syria and would therefore by 36 B.C. have been past the age of military service[1788]. Tarn also erred in assuming that the native peoples of Central Asia were unfamiliar with fortifications before the coming of Alexander and the Greeks[1789]. Evidence to the contrary was unknown to Tarn, since he failed to concern himself with the work of the Soviet archaeological expeditions in Central Asia. Consecutive rings of fortification were not uniquely Roman. The ancient inhabitants of Choresmia also had fortresses with double walls, such as those described by the 'Han Shu'[1790]. More damaging still is the Wallburg of Ivolginsk, known since the 1930's as a Hsiung-nu fort with four consecutive walls[1791]. Professor Dubs' hypothesis must thus be recognized for what it is: a work of fiction of moderate interest.

Notes

I

[1] The Karasuk Culture was dated c. 1300—800 B.C. by S. V. Kiselev, Drevniaia Istoriia Iuzhnoi Sibiri^{2} (Moscow 1951), 174—183. Others would set the beginning date somewhat lower. Jettmar proposed a date shortly after the advent of the Chou dynasty in China (c. 1050 B.C.), K. Jettmar, Die frühen Steppenvölker: Der eurasiatische Tierstil, Entstehung und sozialer Hintergrund (Baden-Baden 1964), 68—69; cf. Idem, Cross-Dating in Central Asia, CAJ 14.4 (1970), 254, where he suggests c. 1300—700 B.C.; J. Průšek, Early Nomads and the Book of Karl Jettmar, OLZ 62,7/8 (1967), 338 suggests c. 1100 B.C.; M. P. Griaznov, The Ancient Civilization of Southern Siberia (New York 1969), 97: thirteenth to eighth centuries. On the importance of the Karasuk Culture see also J. Průšek, Chinese Statelets and the Northern Barbarians 1400—300 B.C. (Prague 1971), 77—87.

[2] So S. V. Kiselev, Drevniaia Istoriia^{2}, 179; K. Jettmar, The Karasuk Culture and its South-Eastern Affinities, BMFEA 22 (1950), 115—123; Idem, The Altai before the Turks, BMFEA 23 (1951), 143—146; Idem, Die frühen Steppenvölker, 64; Idem, Mittelasien und Sibirien in vortürkischer Zeit, Handbuch d. Orientalistik, Abt. V, Bd. V, Abs. 5 (Leiden 1966), 35; Te-k'un Cheng, Archaeology in China, vol. 3. Chou China (Cambridge 1963), 140.

[3] G. F. Debets, Paleoantropologiia SSSR, TIE 4 (Moscow 1948), 77—83.

[4] Such influence was suggested by B. Karlgren, Some Weapons and Tools of the Yin Dynasty, BMFEA 17 (1945), 113—144; Idem, Bronzes in the Hellstrom Collection, BMFEA 20 (1948), 27—38; K. Jettmar, BMFEA 22 (1950), 83—112, 115—116. Cf. M. Loehr, Weapons and Tools from Anyang and Siberian Analogies, AJA 53 (1949), 126—144 who argued that similarities between the Anyang finds and those of Siberia were due to early nomad influence on Shang China. For a similar instance of the influence of nomad art on China in the Han to T'ang period see A. Salmony, Eine chinesische Schmuckform und ihre Verbreitung in Eurasien, ESA 9 (1934), 323—335.

[5] V. P. ALEKSEEV, Paleoantropologiia Altae-Saianskogo Nagor'ia Epokhi Neolita i Bronzy, TIE 71 (Moscow 1961), 107—206. The existence of a local phase of the Karasuk Culture for the Tien-Shan Range is suggested by BERNSHTAM who stresses the similarities of the Minusinsk finds with his excavations at Semirech'e, Chonkemin and Kargaly I, see A. N. BERNSHTAM, Osnovnye etapy istorii kul'tury Semirech'ia i Tian'-Shania, SA 9 (1949), 342—344. Rejected by K. JETTMAR, Archäologische Spuren von Indogermanen in Zentralasien, Paideuma 5.4 (1952), 347—349.

[6] J. PRŮŠEK, OLZ 62.7/8 (1967), 331—332. More recently he refers only to Chinese influence and no migration of any sort, IDEM, Chinese Statelets, 98. But cf. the view of CHLENOVA that the migrants came to the Minusinsk Basin from the Pamir-Ferghana region, N. L. CHLENOVA, Osnovye voprosy proiskhozhdeniia kul'tury Iuzhnoi Sibiri, in: Voprosy Istorii Sibiri i Dal'nego Vostoka (Novosibirsk, 1961), 279—283; IDEM, Pamiatniki perekhodnogo karasuk-tagarskogo vremeni v Minusinskom kotlovine, SA (1963), 3. 48—66; IDEM, Skifskii Olen', MIA 115 (1962), 167—203 = Le Cerf Scythe, Artibus Asiae 26 (1963), 27—65 noting that the distinctive stag motif characteristic of Animal Style art appears two centuries earlier than in the Minusinsk Basin at Sakkez in Kurdistan. (See R. GHIRSHMAN, Notes Iraniennes, VI: Le Trésor de Sakkez, les origines de l'art Mède et les Bronzes du Luristan, Artibus Asiae 13.3/4 [1950], 197—198).

[7] So especially GRIAZNOV who argues for a geographically widespread replacement of the Andronovo by the Karasuk Culture, see M. P. GRIAZNOV, K voprosu o kul'turach epokhi pozdnei bronzy v Sibiri, KSIIMK 64 (1956), 27—42 but cf. N. L. CHLENOVA, O kul'turach bronznoi epokhi lesostepnoi zony Zapadnoi Sibiri, SA 23 (1955), 38—57. On the basis of recent archaeological surveys GRIAZNOV continues to argue his case, M. P. GRIAZNOV, Southern Siberia, 11—12, 21—22, 97. The surveys and excavations were made in connexion with the building of the Krasnoyarsk and Sayan-Shush hydroelectric projects. Cf. K. JETTMAR, BMFEA 23 (1951), 148—149; also on the region west of Dzungaria see K. JETTMAR, Die frühen Steppenvölker, 216—217.

[8] K. JETTMAR, BMFEA 23 (1951), 150; J. PRŮŠEK, OLZ 62.7/8 (1962), 331—334; M. P. GRIAZNOV, Southern Siberia, 98.

[9] M. P. GRIAZNOV, Southern Siberia, 101, 104. Two other settlements are also attributed to the Karasuk Culture: Anash, cf. S. A. TEPLOUKHOV, Drevnie pogrediia v Minusinskom krae, ME 3.2 (1927), 102—105; and Bateni, S. V. KISELEV, Drevniaia Istoriia^2, 93—94.

[10] M. P. GRIAZNOV, Istoriia drevnikh plemen verkhnei Obi po raskopam bliz s. Bol'shaia Rechka, MIA 48 (1956), 84—85; IDEM, Southern Siberia, 98—104. Further west remains of a people practising herding and agriculture have been found in an extensive burial ground at Zaman-Baba in the Kyzyl-kum Desert, see E. E. KUZ'MINA, Mogil'nik Zaman-Baba, SE (1958), 2.24—33.

[11] S. I. RUDENKO, Kul'tura Naseleniia Tsentral'nogo Altaia v Skifskoe Vremia (Moscow/Leningrad 1960), 197—198 (contra GRIAZNOV); M. P. GRIAZNOV, Raskopki Altaiskoi ekspeditsii na Blizhnikh Elbanakh, KSIIMK 26 (1949), 110; IDEM, Bol'shaia Rekhka, 74—85: on the first stage at Bol'shaia Rekhka; IDEM, Southern Siberia, 131—133; K. JETTMAR, Die frühen Steppenvölker, 128—141; IDEM, CAJ 14.4 (1970), 255; O. LATTIMORE primarily in: Inner Asian Frontiers of China (Boston 1951), 63—74; also valuable on this problem are S. S. CHERNIKOV, O termine 'rannie kochevniki', KSIA 80 (1960), 17—21; W. EBERHARD, Conquerors and Rulers: Social Forces in Medieval China^2 (Leiden 1965), 107—118; J. PRŮŠEK, OLZ 62.7/8 (1967), 325—346.

[12] M. P. GRIAZNOV, Pervyi Pazyrykskii Kurgan (Leningrad 1950), 3; IDEM, Southern Siberia, 131—133; cf. S. S. CHERNIKOV, KSIA 80 (1960), 17—21. The suddenness of the change is accepted by K. JETTMAR who cites as a parallel the rapid spread of horse-nomadism on the Great Plains of North America after the introduction of the horse, K. JETTMAR, Die frühen Steppenvölker, 217; IDEM, Paideuma 5.4 (1952), 236—237.

[13] S. I. RUDENKO, Kul'tura, 196—198.

[14] Evidence summarized in K. JETTMAR, BMFEA 23 (1951) 148—150; IDEM, Die frühen Steppenvölker, 216—217. For the origin of horse riding and mounted warfare in the Near East see J. F. DOWNS, The Origin and Spread of Riding in the Near East and Central Asia, American Anthropologist 63 (1961), 1201—1202.

[15] K. JETTMAR, Die frühen Steppenvölker, 218, cf. criticism of J. PRŮŠEK, OLZ 62,7/8 (1967), 343.

[16] O. LATTIMORE, Inner Asian Frontiers, 61—65. The dating is based on the appearance of the phenomenon of fortification of their northerly frontiers by the major agricultural states south of the steppe, ibid. xliv–xlv, 429. LATTIMORE cites the Hsien-pi as an example of such a phenomenon, ibid. 453. See also IDEM, The Mongols of Manchuria (New York 1934 [1969]), 37—61.

[17] WEBER used the same type of analysis in his famous study of the relationship between Calvinism and Capitalism. See WEBER's description of this analytical tool in: The Protestant Ethic and the Spirit of Capitalism, Trans. T. PARSONS (New York 1958), 200n. 28; IDEM, The Theory of Social and Economic Organisation, ed. T. PARSONS (from: Wirtschaft und Gesellschaft) (New York 1947). See also on this D. MARTINDALE, The Nature and Types of Social Theory (Boston 1960), 379—382; R. BENDIX, Max Webers Religionssoziologie, Kölner Zeitschrift f. Soziologie u. Sozialpsychologie, Sonderheft 7 (1963), 285—289.

[18] W. EBERHARD, Conquerors and Rulers², 108—109; J. PRŮŠEK, Chinese Statelets, 88—95. On nomads with permanent settlements see below p. 689, n. 53.

[19] Note the statement of EBERHARD that "Nomadic culture in its highest form certainly is not too old. It represents too high a degree of specialization." W. EBERHARD, Conquerors and Rulers (Leiden 1952), 72. Also F. HANCAR, The Eurasian Animal Style and the Altai Complex, Artibus Asiae 15 (1962), 178—179.

[20] A. J. TOYNBEE, A Study of History (Oxford 1935 [1962]), 7—15, 22—50 (on the Osmanlis Turks), and 395—452 (on nomad "eruptions" into areas held by sedentary peoples).

[21] J. PRŮŠEK, OLZ 62.7/8 (1967), 344 who cites as evidence a reference in: WEN-T'UNG MENG, Chou Ch'in shao shu min-tsu yen Chiu (Shanghai 1958) to a severe drought lasting 150 years in the ninth and eighth centuries in China. This is little more than a revival of the dessication theories of E. HUNTINGTON, The Pulse of Asia (Boston/New York 1907), esp. 367—385; see also for the same region A. E. ENGLAENDER, The Origin and Growth of Deserts and the Encroachments of the Desert in Northern China, JRASNCB 59 (1928), 146—168. For a good criticism of such theories of geographical determinism see O. LATTIMORE, The Geographical Factor in Mongol History, GJ 91.1 (1938), 1—7. (In fact, some Soviet geographers believe that Turkestan is indeed drying up, e. g. M. PETROV 'Once Again about the Dessication of Asia', Soviet Geography [1966] 15—24.)

[22] F. HANCAR, Die Skythen als Forschungsproblem, in: G. BEHRENS and J. WERNER (eds.), Reinecke Festschrift zum 75. Geburtstag von Paul Reinecke (Mainz 1950), 72. S. S. CHERNIKOV argues that warfare was a constant factor of nomad society, KSIA 80 (1960), 18—19. PRŮŠEK envisages a period of initial violent warfare followed by a period of relative quiet during which the Animal Style developed, OLZ 62.7/8 (1967), 342; cf. IDEM, Chinese Statelets, 91. For the fortification of agricultural settlements as indicative of the increased warfare which accompanied the development of nomadism see V. N. CHERNETSOV and W. MOSZYN'SKA, Pre-History of Western Siberia (Montreal/London 1974), 65—74 who discuss the fortifications found at Kushevat and Sortynya in the Ob Valley (the dating is based on the rich pottery assemblage from the camp-site at Zelenaya Gorka). Also fortified hill sites at Us-Nel and Us-Tolt ibid., 126. For an important forti-

fied hill-site of the next cultural phase in the Ob basin see ibid., 77—137 describing a settlement of hunters and fishermen living in close proximity to nomadic tribes at Ust-Poluy.

[23] The legend of the migration in Herodotus IV.13 is based on Aristeas of Proconnesus (see below p. 692, n. 67). The Scythians' own account is different, see Hdt. IV.11—12, cf. W. W. How and J. WELLS, A Commentary on Herodotus (Oxford 1912), 305—307 who had no archaeological evidence available to them. See E. H. MINNS, Scythians and Greeks (Cambridge 1913), 97—100 who argues that the Scythians are of Mongolian origin with a lesser Iranian strain and that they spoke a Ural-Altaic language. Cf. M. ROSTOVTZEFF, Iranians and Greeks in South Russia (Oxford 1922), 35—60 who pictures the Scythians as conquerors who spoke an Iranian language and came from the East to overrun the local population of the Pontic steppe. For ideological reasons the theory has never won acceptance among Soviet archaeologists who have striven hard to show the autochthonous development of Scythian culture, see S. P. TOLSTOV, Sredneaziatskie skifi v svete noveishikh archeologicheskikh otkrytii, VDI (1963), 2.25—27 pointing out that theories about the autochthonous development of the Scythians began a year after the success of the Russian Revolution. Such views are particularly dominant in general theoretical studies, see P. N. TRET'IAKOV, The Ethnogenetic Process and Archaeology, SA (1962), 4 = SAA 1.4 (1963), 12; E. A. SYMONOVICH, Toward the Question of the Cherniakhov Culture, SA (1962), 2 = SAA 1.3 (1962/63), 18, 24 but cf. L. S. KLEIN, A Brief Validation of the Migration Hypothesis with Respect to the Origin of the Catacomb Culture, Vestnik Leningradskogo Universiteta, Seria Istorii, Iazyka i Literatury (1962) 2, = SAA 1.4 (1963), 27—36. In the West the migration theory is more widely accepted with the reservation that this was an exceptional event and that most nomad societies arose from autochthonous development, see K. JETTMAR, BMFEA 23 (1951), 148—150; J. F. HASKINS, Pazyrik: the Valley of the Frozen Tombs, BNBC 40.1/2 (1956), 8; J. PRŮŠEK, Chinese Statelets, 124, and IDEM, OLZ 62.7/8 (1967), 344—345.

[24] B. KARLGREN, BMFEA 17 (1945), 113—144; M. ROSTOVTZEFF, L'art Gréco-Sarmate et l'art Chinois de l'Époque des Han, Arethuse, fasc. 3 (April, 1924), 81. JETTMAR suggests Scythian raids on China before they moved West. Chinese craftsmen were kidnapped and forced to work for the Scythians, K. JETTMAR, BMFEA 23 (1951), 155—156. This means of explaining the supposed Chinese influence on the Animal Style is highly unlikely, see below and p. 685, n. 28. Also on this see J. PRŮŠEK, OLZ 62.7/8 (1967), 328—330. Animal Style art in fact seems to appear later in the East than in the West, see B. KARLGREN, New Studies on Chinese Bronzes: Ordos and Huai, BMFEA 9 (1937), 110—111 and KWANG-CHIH CHANG, The Archaeology of Ancient China^2 (New Haven 1968), 340, 354—362; TE-K'UN CHENG, Chou China, 133—144; cf. also the bronze plaque from a grave at Derestui which contained Han coins, E. DITTRICH, Das Altai-Gold und China, ZDMG 111 (1961), 503—504 and cf. J. WERNER, Zur Stellung der Ordosbronzen, ESA 9 (1934), 261 on finds from Tultu. In tomb no. 140 at K'o-sheng chuang in Ch'ang hsien, Shensi province, two bronze plaques were found, one showing two men wrestling between horses and trees with an eagle hovering above. The tomb is dated to the end of the Warring States period. K'ao-ku (1959), no. 7, cf. RBS (1959), no. 337. For a very similar plaque in the C. T. Loo collection see M. ROSTOVTZEFF, The Great Hero of Middle Asia and his Exploits, Artibus Asiae 4 (1930/32), 101—102.

[25] M. P. GRIAZNOV, KSIIMK 26 (1949), 110; IDEM, Southern Siberia, 199—200; K. JETTMAR, Die Frühen Steppenvölker, 85—86.

[26] K. JETTMAR, BMFEA 23 (1951), 151, 154; IDEM, Die Frühen Steppenvölker, 86. The same poverty is characteristic of other sites of this culture: three kurgans at Bolsherechenskoe, the site after which the culture is named; fourteen kurgans at Berezhnovka and fifty-three graves at Blizhnie Elbany yielded almost no pottery, a few fragments of bronze and some paste beads. See M. P. GRIAZNOV, Pamiatniki maiemirskogo etapa epokhi rannikh kochevnikov, KSIIMK 18 (1947), 9—17; IDEM, KSIIMK 24 (1949), 110—119. Such poverty is however, not in evidence everywhere. In the foothills of the Urals the settle-

ments of the Ananino Culture, usually dated from the seventh to the third century B.C., prospered from the production of bronzes which have been found as far away as Finland and Scandinavia. The small settlements of these people, frequently only c. 60 by c. 150 meters, were surrounded by a wall and ditch or palisade. In general see K. JETTMAR, Die frühen Steppenvölker, 45—49, cf. also M. P. GRIAZNOV, Southern Siberia, 133; J. PRŮŠEK, OLZ 62.7/8 (1967), 330; V. M. MASSON and V. I. SURIANIDI, Central Asia: Turkmenia before the Achaemenids (New York 1972), 145.

[27] The most important animals in the nomad economy are sheep and horses. As RUDENKO has pointed out, these two are the only domestic animals capable of finding pasture under the snow, S. I. RUDENKO, Frozen Tombs of Southern Siberia (Berkeley 1970), 55—58; cf. W. EBERHARD, Conquerors and Rulers, 114—115. On the particular characteristics of sheep-breeding nomads of Tibet see M. HERMANNS, Die Nomaden von Tibet (Vienna 1949), 84—102 (known to the Han as the Ch'iang tribes). The two animals between them provided the nomads with food, fuel, clothing and transportation. This importance of horses and sheep is reflected in the archaeological material. K. JETTMAR, Die frühen Steppenvölker, 128, 144; IDEM, Mittelasiatische Bestattungsrituale und Tierstil, Iranica Antiqua 6 (1966), 15; O. LATTIMORE, Inner Asian Frontiers, 74.

[28] Most recently many of the finest pieces in the collection were shown at the exhibition of Scythian art held in the summer of 1975 at the Metropolitan Museum of Art. See the catalogue, From the Lands of the Scythians (New York 1975), nos. 143—161. For the proposed chronologies of these artifacts see N. FETTICH, Zur Chronologie der Sibirischen Goldfunde, AArchHung 2.4 (1952), 251—267. The source region of these objects is uncertain, cf. K. JETTMAR, Die frühen Steppenvölker, 184—202 who suggests eastern Kazakstan. For the major motifs see S. I. RUDENKO, The Mythological Eagle, the Gryphon, the Winged Lion and the Wolf in the Art of Northern Nomads, Artibus Asiae 21 (1958), 101—122 and N. L. CHLENOVA, Artibus Asiae 26 (1963), 27—65.

[29] So J. PRŮŠEK, OLZ 62.7/8 (1967), 345—346; cf. K. JETTMAR, Die frühen Steppenvölker, 214.

[30] On the social stratification suggested by the Pazyryk kurgans see S. I. RUDENKO, Frozen Tombs, 215.

[31] K. A. AKISHEV and G. A. KUSHAEV, Drevniaia Kul'tura Sakov i Usunei Doliny Reki Ili (Alma-Ata 1963), 67; in the Karasuk period there was considerably less difference between the largest and the smallest kurgans, cf. M. P. GRIAZNOV, Southern Siberia, 130.

[32] M. P. GRIAZNOV, Southern Siberia, 217. The Tagar Culture follows upon the Karasuk Culture in the Minusinsk basin and is marked by the return of a Europoid people. Although the graves contain no goods related to horsemanship, a number of random finds indicate that these were mounted warriors. Cf. K. JETTMAR, Die frühen Steppenvölker, 70—71.

[33] M. P. GRIAZNOV, Southern Siberia, 217—218. For the problem of dating the Tagar culture see K. JETTMAR, CAJ 14.4 (1970), 262—263.

[34] On which innumerable studies now exist, e. g. see M. P. GRIAZNOV, Pervyi Pazyrykskii Kurgan (Leningrad 1950); S. I. RUDENKO, Kul'tura; IDEM, Frozen Tombs.

[35] This date is a notable example of the error produced by dating from artistic style. The silk found in the Pazyryk kurgans was said to belong to the late first century B. C., so V. SYLWAN, Woollen Textiles of the Lou-lan People, Sino-Swedish Expedition Publication 15, VII. Archaeology, no. 2 (Stockholm, 1941), 46 and B. KARLGREN, BMFEA 9 (1937), 99, n. 1; cf. HASKINS for similarity between the silk embroidery from Pazyryk kurgan 5 and excavated material from third century China, J. F. HASKINS, BNBC 40.1/2 (1956), 43. UMEHARA dated the lacquer from the Shibe kurgan precisely to the period 86—48 B.C., see M. P. GRIAZNOV and E. A. GOLOMSHTOK, The Pazirik burial of Altai, AJA 37 (1933), 32 n. 2. Such low dates were suggested by the discovery in the same

burial of a Mongoloid skull which was seen to be similar to those from Noin Ula, so G. F. DEBETS, Paleontropologiia SSSR, 139—141. Hence S. V. KISELEV, Drevniaia Istoriia², 373—374. More recently it has been noted that lacquer was extensively used in the Altai kurgans and that the article dated by UMEHARA is probably a local product, so W. M. THOMPSON in: S. I. RUDENKO, Frozen Tombs, xxvii. DEBETS' anthropological analysis has been challenged by RUDENKO who argued that Europoids are represented in graves at Tuiakhta, Kurai and Pazyryk while Mongoloids occur at Tuiakhta and Katanda. The variation in physical types and stature of many of the skeletons bears no relation to the Noin Ula finds nor is the presence of Mongoloid types significant since these had spread to West of the Urals long before the rise of the Hsiung-nu. S. I. RUDENKO, Frozen Tombs, 45—53, cf. also A. D. GRACH, Mogil'nik Sagly-Bazhi II i voprosy archeologii Tuvy skifskogo vremeni, SA (1967), 3.215—233 discussing the date of the burials in the Sagly valley in the Tuva region. For the lower dates of the Altai tombs see M. P. GRIAZNOV, Southern Siberia, 133—136 who dates the earliest or Maiemiric phase to c. 600 —400 B. C., the Pazyryk phase to c. 400—200 B. C. and the Shibe phase c. 200 B. C.— A. D. 1. In the final phase he includes the Berel and Shibe kurgans and one grave from Katanda (but cf. the C^{14} readings in the next note). For the proposed late date of the Katanda and Bashadar kurgans see A. A. GAVRILOV, Raskopki vtorogo katandinskogo mogil'nika, SA 27 (1957), 265.

[36] Pazyryk: Dendrochronology indicates that the erection of kurgans 1—5 spanned 48 years. One radiocarbon date from kurgan 2 is 390 B. C. ± 130. I. M. ZAMOTORIN, Otnositel'naia chronologiia pazyrykskich kurganov, SA 29 (1959), 21—30; C. S. CHARD, First Radiocarbon Dates from the U.S.S.R., Arctic Anthropology 1 (1962), 85—86. Readings from other Pazyryk graves are consistently fifth century: kurgan 2, 400 B. C. ± 140; kurgan 5, 490 B.C. ± 50. See S. V. BUTOMO, Radiocarbon Dating in the Soviet Union, Radiocarbon 7 (1965), 223. See also K. JETTMAR, CAJ 14.4 (1970), 264—265, 268—269 who points out that at many sites radiocarbon readings can not be brought into agreement with the approximate chronology derived from the typology of the excavated remains. DITTRICH has argued for a date of 350—300 B.C. on the basis of the Chinese material found at Pazyryk, E. DITTRICH, Das Motiv des Tierkampfes in der Altchinesischen Kunst, Asiatische Forschungen 13 (Wiesbaden 1963), 24—34, cf. G. A. AZARPAY, Some Classical and Near Eastern Motifs in the Art of Pazyryk, Artibus Asiae 22 (1959), 338—339 who suggests an early fourth century date on the basis of Achaemenid influence. Other Altai radiocarbon readings: Tuiakhta kurgan, 500 B. C. ± 120; second sample from the grave robbers' shaft, 500 B. C. ± 120; Katanda kurgan, 470 B. C. ± 130; Shibe kurgan, 470 B. C. ± 100; S. V. BUTOMO, Radiocarbon 7 (1965), 223. See also C. S. CHARD and W. B. WORKMAN, Soviet Archaeological Radiocarbon Dates, II, Arctic Anthropology 3.1 (1965), 150.

[37] The term 'Scythian' is a broad chronological designation applied by Soviet archaeologists to the period c. 700—200 B.C. and does not suggest that the Pontic Scythians spread to the Altai, cf. F. HANCAR, in: Festschrift Paul Reinecke, 68—69. For the attribution of the Altai finds to the Massegetae see J. K. HASKINS, BNBC 40.1/2 (1956), 10, 43 who equates these with the Ta Yüeh-chih. Cf. R. N. FRYE, The Heritage of Persia (New York 1963), 66 who discusses the identity of the former. A migration of the Massegetae to the Altai from the Trans-Oxus region is also suggested by S. P. TOLSTOV, Drevnii Chorezm (Moscow, 1948), 242—247. The attribution to a Central Asia people seems unlikely. The excavations of the Besshatyr kurgan in the Ili Valley and of a kurgan at Chilikty in the Chiliktinsk Valley in Southeast Kazakstan indicates that the burial ritual here is completely different from the Altai. These kurgans are usually attributed to Saka tribes. See S. S. CHERNIKOV, Zolotoi kurgan Chiliktinskoi doliny, KSIIMK 98 (1964), 29—32; K. JETTMAR, Iranica Antiqua 6 (1966), 8—19.

[38] V. SYLWAN, Woollen Textiles, 46. For the Pazyryk silks see E. LUBO-LESNICHENKO, Drevnie Kitaiskie Shelkovye Tkhani v Vyshivki V v. do n. e. — III v. n. e. v Sobranii Gosudarstvennovo Ermitazha (Leningrad 1961), 28—29.

[39] The numerous Altai burials are now considered to belong to a common culture. Among the first to recognize this was K. Jettmar, BMFEA 23 (1951), 160. The earliest barrows, the Bashadar kurgan and two kurgans at Tuiakhta, are dated to c. 520 B. C., S. I. Rudenko, Frozen Tombs, xxxvi. Possibly of earlier date are the two horse-nomad kurgans on the Narym River, three near Solonechnaia Belka and one grave near Ust Kniuma. All three sites belong to the Maiemeric phase and show evidence of a local development of nomadism. K. Jettmar, ibid. 152—154. For more recent early finds (seventh to sixth centuries) from the Altai see S. S. Sorokin, Novyi Pamiatnik VII—V vv. do n. e. na Iuzhnom Altae, SA (1969), 2.249—252 on excavations at Argut; slightly later are the equally poor inventories from the 42 kurgans at Kok-su, see Idem, Tsepochka kurganov vremeni rannikh kochevnikov na Pravom Beregu Kok-su (Iuzhnyi Altai), AS 16 (1974), 62—91.

[40] The earliest Greek artifacts are fine pottery of the seventh century B.C. and are concentrated in the area between the Dnieper and Bug rivers, primarily in the forest-steppe on the northern part of the Prichernomorsk Plain. See T. N. Knipovich, K voprosu o torgovykh snosheniiakh grekov s oblastiu r. Tanaisa v VII—V vekakh do n. e., IGAIMK 104 (1934), 90—110; cf. Ia. V. Domanskii, Zametki o kharaktere torgovykh sviazei grekov s tuzemnym mirom Severnogo Prichernomor'ia v VII v. do n. e., AS 12 (1970), 47—53 and N. A. Onaiko, Antichnyi import na territorii Srednego Pridneprov'ia (VII po V vv. do n. e.), SA (1960), 2.26—30. For grave inventories in the area west of the Urals see e. g. M. Rostovtzeff, Skythien und der Bosporus (Berlin 1931), 279—280 (kurgan at Kelermesh), also the list cited below p. 687, n. 44. The Scythian graves of the Volga region are considerably poorer. See the finds at Blumenfeld, Pokrovka and Bich-Oba, ibid. 478—481; in greater detail see B. Grakov, Monuments de la culture Scythique entre le Volga et les monts Oural, ESA 3 (1928), 25—62. In kurgan A 12 near Saratov a single glass bead of Greek origin was found and from a grave at Pokrovka a bronze mirror said to show Greek influence was excavated, ibid., 30, 58 cf. 61 where Grakov stresses the almost total absence of Greek influence in the Volga region; similarly fourth centuy B. C. kurgans near Orenburg, Idem, Deux tombeaux de l'époque scythique aux environs de la ville Orenbourg, ESA 4 (1929), 169—182.

[41] The Uyuk valley kurgans are dated to the fifth through third centuries B. C. and belong to an iron-using nomad culture. They are the richest in the Tuva region. M. P. Griaznov, Southern Siberia, 220. The graves of the Sagly Valley, which bear a marked resemblance to those of the Altai, contain complete inventories of the military equipment of the nomad warriors of the Tuva region. See A. D. Grach, SA (1967), 3.215—233.

[42] S. I. Rudenko, Die Kultur der Hsiung-nu und die Hügelgräber von Noin Ula, Antiquitas 3, ser. 7 (Bonn 1969), 21.

[43] O. Lattimore, Inner Asian Frontiers, 69. Yü's view that the Hsiung-nu as nomads were economically insufficient and therefore had to rely on the Chinese for food and clothing is totally incorrect. Ying-shih Yü, Trade and Expansion in Han China (Berkeley 1967), 41—42. All shipments of Chinese food, millet, rice and cattle can be accounted for either as luxury items (such as rice) or relief measures in times of drought (cattle and millet), cf. W. Eberhard, Conquerors and Rulers, 120—121; D. Sinor, Horse and pasture in Inner Asian History, Oriens Extremus 19.1/2 (1972), 174.

[44] See for example M. Rostovtzeff, Skythien, 281—282 (kurgan at Ulschen Aul); 285—287 (kurgan at Elisavetovskaia); 311—312 (kurgan 1 in the necropolis at Phanagoria); 313—318 (Seven Brothers kurgan); 323—328 (kurgans at Karagodeuashch); 334—342 (royal burial at Kul-Oba); 354—356 (kurgan at Kara Markit); 420—421 (kurgans at Zhuravka and Turii); 433—434 (kurgan at Iliinez); 453—455 (kurgans at Akssiutinzy and Volkovzy). Subsequent publications have considerably increased the number of such finds, see for example: A kurgan at Melitopol of the fourth or third centuries excavated in 1954 contained 11 amphorae and other pottery imported from the Greek cities of the

Pontic coast, E. F. Pokrovskaia, Melitopolskii skifskii kurgan, VDI (1955), 2.191—199. A stamped amphora of the early fourth century B. C. was found in kurgan 9 at Nikopol'sko, see B. N. Grakov, Skifskie pogrebeniia na Nikopol'skom kurgannom pole, MIA 115 (1962), 59. Cf. also the finds from the Mastiugino burial ground which contain a considerable number of imports from Thrace and Macedon, A. P. Mantsevich, Mastiuginskie kurgany po materialam iz sobraniia gosudarstvennogo Ermitazha, AS 15 (1973), 12—46 and the glass vessels of the fourth century B.C. found in the Kurdzhipskii kurgan, L. K. Galanina, Stekliannye sosudy iz kurdzhipskogo kurgana, AS 12 (1970), 35—44 (with the new fourth century date and Asia Minor suggested as the area of production). The vast quantities of material from the Dnieper and Bug valleys from the fourth to the second centuries B.C. is summarised in N. A. Onaiko, Economicheskie sviazi antichnykh gorodov Severnogo Prichernomor'ia s plemenami Pridneprov'ia v. Pobuzhia, VDI (1970), 1. 112—120.

[45] The origin of the 'Persian' goods found in the Altai burials is uncertain, see below n. 49. The attribution of several items to China is certain: the silks from Pazyryk kurgans 3 and 5 and the mirror from kurgan 6, see S. I. Rudenko, Frozen Tombs, 39. For Chinese lacquer cups from the Shibe kurgan see M. P. Griaznov and E. A. Golomshtok, AJA 37 (1933) 32 n. 2. Fragments of silk were found at Katanda, see A. Zakharov, Antiquities of Katanda (Altai), JRAI 55 (1925), 43—49 (cf. I. B. Bentovich and A. A. Gavrilova, Mugskaia i Katandinskaia Kamchatye Tkani, KSIA 132 (1972), 31—37 on silk from Katanda II kurgan 2 and the fortress at Mug where a seventh to eighth century date is given). A red silk shroud was found wrapped around a female buried at Karakol, see S. V. Kiselev, Iz rabot Altaiskoi Ekspeditsii Gosudarstvennogo Istoricheskogo Muzeia v 1934 g., SE (1935), 1.97—106. The cowrie shells found in the Altai and in the Minusinsk Basin are also considered to be of Chinese origin, since they were used as money during the Chou period (1050—249 B. C.). K. Jettmar, BMFEA 23 (1951), 197. Such shells have been found at Bystrianskoe and at Tuiakhta. The shells at the latter site are paste imitations used as a necklace, S. V. Kiselev, Drevniaia lstoriia^2, 170—172; 179—180. Lacquer fragments said to be of Chinese origin have been excavated from kurgan 5 at Ust-kansk Aimak in the Altai. The date is late Tagar, ibid. 195—196. A Graeco-Bactrian origin has been proposed for the bronze boars from graves near Kumurtuk on the Chulyshman River and for the griffins from the Berel kurgan, ibid. 181—182; 184—185. For objects attributed to China from the Berel graves see A. A. Zakharov, Materials on the Archaeology of Siberia, ESA 3 (1928), 138.

[46] There is little evidence that in the Han period professional traders (even outsiders like the Chinese) controlled the internal trade of the steppe, cf. O. Lattimore, Inner Asian Frontiers, 69 who implies that this was the case. Lattimore also exaggerates the lack of artisan activity on the steppe. Hence he argues that steppe society as a whole encouraged the acquisition by trade of metal implements as well as manufactured commodities generally from outside of the steppe region, ibid. 70. The nomads themselves were slow to develop a class of traders of their own. Lattimore notes that in later times trade among the Mongols was conducted by outsiders, primarily Chinese, O. Lattimore, The Mongols, 64; Idem, Manchuria, Cradle of Conflict (New York 1932), 59; cf. A. E. Hudson, Kazakh Social Structure, Yale University Publications in Anthropology, no. 20 (New Haven, 1938), 77 citing Moslems and Uighurs as the traders and V. V. Bartold, Turkestan down to the Mongol Invasions (London 1928), 394. In general on the confusion of traders with trade see the enlightened comments of P. Grierson, Commerce in the Dark Ages: A Critique of the Evidence, TrRoyHistSoc 5 ser. 9.1 (1959), 125—129. Studies of modern nomad tribes in southern Asia indicate that such pastorialists not only engage in commerce but also buy plots of land and become absentee landlords, but this has in part come about in response to changing economic conditions, see K. Ferdinand, Nomadic Expansion and Commerce in Central Afghanistan, Folk 4 (1962), 123—159.

[47] For the importance of Saka contingents in Achaemenid armies see M. A. Dandamayev, Politische und Wirtschaftliche Geschichte, in: G. Walser (ed.), Beiträge zur Achämeni-

dengeschichte, Historia Einzelschr. 18 (Wiesbaden 1972), 54. For Achaemenid artistic influence and imports at Pazyryk see G. AZARPAY, Artibus Asiae 22 (1959), 328—330, 333—337.

[48] See H. MASPERO, Influences occidentales en Chine avant les Han, in: Mélanges Posthumes, 3 Études Historiques (Paris 1950), 44—45.

[49] So K. JETTMAR, BMFEA 23 (1951), 208; IDEM, Die frühen Steppenvölker, 39—40; J. PRŮŠEK, OLZ 62.7/8 (1967), 334, 346; M. P. GRIAZNOV, Southern Siberia, 157. In fact, only the mirrors and the silks of the Altai graves can securely be attributed to foreign origins, see above, n. 45. The famed great carpet and the 'Persian' textiles found in Pazyryk kurgan 5 are subject to various interpretations. Some see them as certainly of Persian origin: K. JETTMAR, CAJ 14.4 (1970), 265; S. I. RUDENKO, Frozen Tombs, 225; R. N. FRYE, Persia, 191: "may indicate a flourishing trade with Iran"; G. AZARPAY, Artibus Asiae 22 (1959), 328—330, 333—337. Others suggest Central Asia, so J. F. HASKINS, BNBC 40.1/2 (1956), 21; cf. M. P. GRIAZNOV, Southern Siberia, 157 who adds Sinkiang, the Ordos and Mongolia to the possible areas of origin. The same problem exists with the attribution of the felt carpet from Bashadar in the Altai, S. I. RUDENKO, Frozen Tombs, 298. Cf. also the controversy over the origin of a fur bag or cushion from Pazyryk kurgan 1 and the lathe turned table from kurgan 2. M. P. GRIAZNOV, op. cit., 159 suggests Central Asia or the Tarim Basin as the area of origin. The same objects are regarded as being of local manufacture by S. I. RUDENKO, op. cit. 59. JETTMAR also suggests that the coriander seeds from Pazyryk kurgan 2 are evidence of trade with the South, K. JETTMAR, BMFEA 23 (1951), 178. Coriander is not attested in China before the sixth century of our era, cf. B. LAUFER, Sino-Iranica: Chinese Contributions to the History of Civilization in Ancient Iran (Chicago 1917), 297—299.

[50] For Hsiung-nu control of the oases of the Tarim see sources cited below p. 715, n. 227. For tributary status of the Hsiung-nu before Mo-tun see HS 94A. 6a, cf. DE GROOT, HdVZ 51—52 and SC 110, cf. WATSON, Records 2.160, 162. For Wu-huan tribute to Hsiung-nu see 'Wei-shu', cf. G. SCHREIBER, Das Volk der Hsien-pi zur Han-Zeit, MS 12 (1947), 156.

[51] SC 123, cf. WATSON, Records 2.271—272, 274, 277—278 where the withdrawal of the Wu-sun to the western extremities of the Hsiung-nu controlled area is described and the marriage of the Wu-sun king K'un-mo to a Hsiung-nu bride. It has been suggested by BERNSHTAM that the people represented by his finds in the Talas and Ili regions may be the Wu-sun, see A. N. BERNSHTAM, Osnovnye etapy istorii kul'tury Semirech'ia i Tien-Shania, SA 11 (1949), 359—365.

[52] HS 94A, cf. DE GROOT, HdVZ 59.

[53] Some tribes confined their movements to far more limited areas, cf. O. LATTIMORE, Inner Asian Frontiers, 73. It is thought that the tribes of the Altai may have been among these. RUDENKO believes that they lived permanently in wooden block houses, S. I. RUDENKO, Frozen Tombs, 63—64, 80—81; cf. A. E. HUDSON, Kazakh Social Structure, 76 noting that in this century the longest migrations in the Mongols' yearly cycle were under 300 kilometers. The major piece of evidence for the existence of wooden houses inhabited by nomads in the Minusinsk Basin is the rock drawing, the Boiarskaia Pisanitsa, usually dated to the Tagar period, M. P. GRIAZNOV, Boiarskaia pisanitsa, PIMK 7/8 (1933), 41—45. Wooden houses are shown with a nomad yurt standing beside them. The carving is subject to various interpretations. Some see it as proof of symbiosis between farmers and nomads, so J. PRŮŠEK, Chinese Statelets, 96—97, cf. comments of KWANG-CHIH CHANG, The Archaeology of Ancient China, 228. It may also simply show a summer settlement, so M. P. GRIAZNOV, Southern Siberia, 217. For appearance of a nomad winter settlement see the description of Grishkim Log, ibid. 216. Non-market commercial relations between agricultural communities and nomads have been studied by F. BARTH, Nomads of South Persia (New York 1961), 97—100.

[54] Various Mongol, Turkish and Chinese etymologies have been suggested for this title, see O. Franke, Geschichte des Chinesischen Reiches (Berlin/Leipzig 1937), 3.178—179. For *Shan-yü* as "great son of Heaven" see O. Lattimore, Inner Asian Frontiers, 450.

[55] e. g. SC 110, cf. Watson, Records 2.168, 170; see further references below p. 709, n. 185.

[56] e. g. Kh. Inscr., no. 109: jewels sent as presents to various people who are listed; no. 353, a letter concludes with: "As a token of remembrance I have sent (you) one *cinaveda* [Chinese turban]", cf. T. Burrows, Translation, no. 353; no. 380; no. 399 refers to the gift of a camel to the king of Khotan; no. 584 refers to a gift of honour to a certain Ramṣotsa of four sheep; no. 690 refers to the sending of small presents to relatives; Chavannes, Doc. Chinois, nos. 940—947 refers to presents to the local royal family from their subjects and presents from various family members to each other.

[57] J. C. van Leur, Indonesian Trade and Society (The Hague/Bandung 1955), 54—56 on gift trade in general. This for example is true in such transactions as that mentioned in Kh. Inscr., no. 222 which records that the scribe Ramṣotsa gave to the *cozbo* Soṃjaka a certain amount of land: "The *cozbo* Soṃjaka arose and gave as a gift to the scribe Ramṣotsa and Suguta as a return for the land one rug worth 10 *muli*. They agreed on equal terms." Cf. T. Burrows, Translation, no. 222; so also Kh. Inscr., no. 243: a certain Cakvala gives his father a horse and receives in return 2 sheep and 3 *hasta varse*.

[58] e. g. Kh. Inscr., no. 335, a letter from the Khotami Sakha to Cuǵapa: "A long time has passed and we have not sent you from here a letter and present, nor have we heard anything from you there." Cf. T. Burrows, Translation, no. 335, cf. Kh. Inscr., no. 316.

[59] cf. J. Průšek, Chinese Statelets, 227.

[60] G. Riek and H. J. Hundt, Die Hohmichele: ein Fürstengrabhügel der späten Hallstattzeit bei der Heuneburg (Berlin 1962), 206—209; J. P. Wild, Textile Manufacture in the Northern Roman Provinces (Cambridge 1970), 12. Another piece of silk was reportedly found in Armenia at Toprak Kale, a city of Urartu. The site came to an end c. 585 B.C. In 1909 this textile was placed in the Vorderasiatische Museum in Berlin, but has to my knowledge not been studied. See C. F. Lehmann-Haupt, Bombyx, in: Innsbrucker Festschrift für O. Redlich (Innsbruck 1928), 409—430 describing it as Assyrian silk; cf. Idem, Die zoomorphe Junktur an vorarmenisch-chaldischen, etruskischen und chinesischen Bronzegeräten als Merkmal kulturgeschichtlicher Beziehungen, in: Actes du XVIIIe Congrès International des Orientalistes, 7—12 Sept. 1931 (Leiden 1932), 59, where he suggests that possibly the silk is Chinese.
The potential also exists that some Oriental goods reached the Celts in the late sixth and in the early fifth centuries B.C. during the Achaemenid occupation of Thrace; see N. K. Sandars, Orient and Orientalising in early Celtic art, Antiquity 45 (1971), 103—111. Cf. also the suggestion that ornamental rugs such as those found at Pazyryk made their way west and that motifs from these are imitated in a wall-painting in a third-century B.C. Macedonian chamber tomb at Dion; see J. Boardman, Travelling Rugs, Antiquity 44 (1970), 143—144.

[61] T. M. Minaeva, Zwei Kurgane aus der Völkerwanderungszeit bei der Station Šipovo, ESA 4 (1929), 199; P. D. Rau, Prähistorische Ausgrabungen auf der Steppenseite des deutschen Wolgagebiets im Jahre 1926 (Pokrovsk 1927), 66; N. Toll, Zametki o kitaiskom shelke no iuge Rossi, SemKondakav 1 (1927), 85—92; E. I. Lubo-Lesnichenko, Drevnie Kitaiskie Shelkovye Tkani, 29.

[62] A Han mirror has been found in a Sarmatian burial (first to second centuries) excavated by Rau in 1927 at a farm by the Torgun River, see T. V. Sinitsyn, K materialam po sarmatskoi kul'ture no territorii Mizhnego Povolzh'ia, SA 8 (1946), 91—92, fig. 26; the same in M. Ebert, Reallexikon der Vorgeschichte 13 (1929), s. v. Südrußland, pl. 40B.b; another mirror of Han date was excavated from kurgan 3 at Berezhnovka, see I. V. Sinitsyn, Drevnie pamiatniki v nizov'iakh Eruslana, MIA 78 (1960), 46; another Han mirror

was found in kurgan 37 in a burial ground between Kazanskaia and Tifliskaia Staniza, see M. Rostovtzeff, Skythien, 563 n. 1.

[63] M. Ebart, Reallexikon der Vorgeschichte 13, s. v. Südrußland, 106, 108 referring to several finds of such jade objects in South Russia. By name he mentions only Alt-Weimar. In general for jade scabbard slides in Sarmatian graves (citing an example from Kerch), see O. Maenchen-Helfen, Crenelated Mane and Scabbard Slide, CAJ 3 (1957), 93; also on the Kerch find see M. Rostovtzeff, Une trouvaille de l'époque gréco-sarmate de Kertch, MonPiot 26 (1923), 99—101.

[64] Such finds have a long history. A seventeenth century find of a mirror bearing a Chinese inscription (the type is B. Karlgren, Early Chinese Mirror Inscriptions, BMFEA 6 [1934], 25, no. 83) was reportedly made near Vergaturia in Siberia. A second such mirror (inscr. type, Karlgren no. 84) was found c. 1730 in a kurgan in Western Siberia. Both are republished by Lien-sheng Yang, An Inscribed Han Mirror Discovered in Siberia, TP 2 ser. 42 (1953), 330—340; L. P. Kyzlasov, Tashtykskaia Epokha (Moscow 1960), 85—86 mentions a Han mirror from Izykh (fig. 30.1) and five mirrors in stray finds from the Minusinsk. Central Asia is particularly rich in such finds: E. A. Davidovich and B. A. Litvinskii, Arkheologicheskii ocherk Isfarinskogo raiona, TIIANTadzhSSR 35 (1955), 65, fig. 31 and B. A. Litvinskii, Issledovanie mogil'nikov Isfarinskogo raiona, ibid. 27 (1961), 76, pl. 12, a Han mirror from a grave at Varukh; Iu. D. Baruzdin, Kara-Bulakskii mogil'nik (razkopki 1955g), TIIANKirSSR 3 (1957), 27, fig. 5.1—3, a Han mirror excavated in 1954 from Kara-Bulak; Iu. A. Zadneprovskii, Gorodishche Shurashshabat, KSIIMK 71 (1958), 100—101, fig. 59.1, a Chinese mirror from Kairagach; V. F. Gaidukevich, Raboty Farkhadskoi arkheologicheskoi ekspeditsii v Uzbekistane v 1943—1944gg, KSIIMK 14 (1947), 101, a Chinese mirror from Shirinsai; M. E. Voronets, Otchet arkhelogicheskoi ekspeditsii Muzeia istorii A. N. Uzbekistanskoi SSR o raskopkakh pogrebal'nykh kurganove vozle st. Vrevskaia, TMIUzSSR (1951), 52—54, fig. 5, a Chinese mirror found in a grave at Vrevskii; I. Kozhomberdiev, Nov'ie dannye o Kenkol'skom mogil'nike, KSIIMK 80 (1960), 72—73, fig. 14, a Chinese mirror from Kenkol; Kozhomberdiev also cites mirrors found at Pskent (publication not available to me) and Chancharkhan (unpublished); Iu. P. Baruzdin and G. A. Brykina, Arkheologicheskie pamiatniki Battena v Liailiaka (Frunze 1962), 15, 23, 28, figs. 15.4—6, 3 Chinese mirrors excavated at Tura-Tash; B. A. Litvinskii, Izuchenie kurumov v severo-vostochnoi chasti Leninabadskoi oblasti v 1957g, TANTadzhSSR 103 (1959), 116, fig. 4, a fragment of a mirror from the Leninabad oblast; V. I. Moshinskaia, Gorodishche i kurgany Potchevash, MIA 35 (1953), 218, a Chinese mirror from the fortified hill site of Potchevash (Cape Chuvashskiy). A Chinese bronze mirror was found in an ancient grave at Nainte-Sume in Mongolia, G. I. Borovka, Arkheologicheskoe obsledovanie srednego techeniia r. Toly, in: Severnaia Mongoliia 2 (Leningrad 1927), 74, fig. 6. From a somewhat later era we have the fine inscribed bronze mirror excavated from a kurgan near Mugur-Aksy in the Tuva region, A. D. Grach, Drevnetiurkskoe pogrebenie s zerkalom Tsin'-vana v Tuve, SE (1958), 3.26—29 figs. 8—9; cf. R. F. Its, O nadpisi na kitaiskom zerkale iz Tuvy, SE (1958), 3.35—37. For Chinese mirrors, mostly from local finds, in the Minusinsk museum see E. R. Rygdylov, Kitaiskie znaki i nadpisi na arkheologicheskikh predmetakh s Enisia, EV 5 (1951), 116—120. The prevalence of such finds (and the list above is no doubt far from complete) illustrates that the foreign goods which enjoyed the widest dispersal on the steppe were those connected with local religious practices and not with economic or commercial motivation.

[65] For contemporary Chinese material found in India see below p. 721, n. 273; for Chinese artifacts found in the Roman Empire see below p. 1059, n. 1717.

[66] I. e. tribute, plunder, gifts and small scale barter. For the advocates of such a route see below. Finds of Chinese artifacts are listed above p. 688, n. 45 (Altai finds); p. 690, n. 62 (Ukraine); p. 691, n. 64 (Central Asia); and below p. 717, n. 235 (Hsiung-nu).

[67] See discussion of the date of Aristeas and collection of the fragments of the 'Arimaspeia' in J. P. D. Bolton, Aristeas of Proconnesus (Oxford 1962). For fragments see 207—214.

Various geographical interpretations have been made of the account of Aristeas and Herodotus (IV.13—16). The opinions of modern scholars divide into two schools. The extremist view holds, on the basis of Ptolemy, that the Issedones and Arimaspians are to be located in Central Asia and the Altai region with some identifying the Hyperboreans with the Chinese, e. g. W. TOMASCHEK, Kritik der ältesten Nachrichten über den skythischen Norden, SAWW 116 (1888) 715—780; 117 (1889), 1—70; G. F. HUDSON, Europe and China (London 1931), 27—52; H. MINNS, Scythians, 101—114. Also on this route G. AZARPAY, Artibus Asiae 22 (1959), 313—314 who finds classical motifs in the Pazyryk finds; cf. A. N. BERNSHTAM, Istoriko-Arkheologicheskie Ocherki Tsentralnogo Tian-shania i Pamiro-Altaia, MIA 26 (Moscow/Leningrad 1952), 210 who identifies the Issedones with the Wu-sun. The alternative explanation, which places Aristeas' route in a north-easterly direction, has also gained some adherents, e. g. A. HERRMANN, RE IX (1916), s. v. Issedoi, col. 2235—2246; E. D. PHILLIPS, The Legend of Aristeas: Fact and Fancy in Early Greek Notions of East Russia, Siberia and Inner Asia, Artibus Asiae 18.2 (1955), 163—177; IDEM, A Further Note on Aristeas, Artibus Asiae 20.2/3 (1957), 159—162. Cf. J. D. P. BOLTON, Aristeas, 104—118 who places the Issedones south of the Altai. For the suggestion that the geographic range implied by Herodotus' tales is considerably narrower, see the salutary remarks of S. CASSON, Herodotus and the Caspian, ABSA 23 (1918/19), 183—193. Others have noted the folklore and metaphysical trappings which surround the tale of Aristeas and suggested that his journey may not have been a real one. See A. ALFÖLDI, Gnomon 9 (1933), 567—568; E. R. DODDS, The Greeks and the Irrational (Berkeley 1966), 140—141.

[68] M. P. CHARLESWORTH, Trade Routes and Commerce of the Roman Empire (London 1926), 98, 104—107; F. J. TEGGART, Rome and China (Berkeley 1939 [1969]), 173—197; J. I. MILLER, The Spice Trade of the Roman Empire (Oxford 1969), 140—141; E. H. WARMINGTON, The Commerce Between the Roman Empire and India^{2} (London/New York 1974), 26.

[69] For the religious importance of mirrors to the people of Siberia and Central Asia see B. A. LITVINSKII, Zerkalo v verovaniiakh drevnikh Fergantsev, SE (1964), 3.97—104 on the burial of broken bronze mirrors in graves. O. J. MAENCHEN-HELFEN, The World of the Huns (Berkeley 1973), 340—353 on the importance of mirrors among the Sarmatians; also on this K. F. SMIRNOV, Savromaty (Moscow 1964), 157—160.

[70] Tanais at the mouth of the Don was ideally situated for such trade and appears during the first three centuries of our era to have been the major port through which wine, oil, bronzes and glassware were traded to the Sarmatians, see D. B. SHELOV, Itogi arkheologicheskogo izucheniia Tanaisa, KSIIMK 100 (1965), 79—85. The pattern of Roman glass finds along the major rivers running into the Black Sea also suggests the importance of these as commercial arteries, see G. ECKHOLM, Scandinavian Glass Vessels of Oriental Origin from the First to Sixth Century, JGS 5 (1963), 30—31. For the concentration of Greek finds in the southern portion of the valleys of the Dnieper and Bug rivers and their tributaries, see N. A. ONAIKO, VDI (1970) 1.112—120. The almost total absence of finds of Greek origin in the Volga region graves is indicative of the weakness of east-west communications, see above p. 687, n. 40. The pattern of Roman material found in the Ukraine also adheres closely to the direction of flow of the major rivers, see below p. 737, n. 374.

[71] J. PRŮŠEK, Chinese Statelets, 36, 53—56, 63.

[72] J. PRŮŠEK, Chinese Statelets, 65, 226. The Chinese knew virtually nothing about northwest Shensi, eastern Kansu, Ninghsia and Turkestan before the end of the Chou period, see A. HERRMANN, Die Westländer in der chinesischen Kartographie, in: S. HEDIN, Southern Tibet, 8 (Stockholm 1922), 127—134; O. LATTIMORE, Inner Asian Frontiers, 349.

[73] So R. HEINE-GELDERN, Das Tocharerproblem und die Pontische Wanderung, Saeculum 2 (1951), 225—253 (dated to ninth or eighth centuries B.C.). The anthropological material collected by STEIN indicates that in the nineteenth century too there were traces of

Mongolian influence at Khotan, see T. A. Joyce, On the Physical Anthropology of the oases of Khotan and Keriya, JRAI 33 (1903), 305—324. For the present racial composition, which is still largely non-Chinese and non-Mongolian, see W. J. Drew, Sinkiang: The Land and the People, CAR 16.3 (1968), 208—216.

[74] E. G. Pulleyblank, Chinese and Indo-Europeans, JRAS (1966), 9—36, cf. J. Průšek, Chinese Statelets, 70—72. For the suggestion that the Indo-European homeland should be sought north of the Caspian Sea, see M. Giambutas, The Indo-Europeans: Archaeological Problems, American Anthropologist 65 (1963), 833—834.

[75] A survey of the archaeological material, tombs, ruins of settlements and remains of the ancient Great Wall indicates that Chinese influence had already penetrated deep into Jehol and the southern part of Chilin province, see Chu-Ch'en T'ung, K'ao-ku-hsüeh-shang Han-tai chi Han-tai i-ch'ien-ti tung-pei chiang-yü, KKHP (1956), 1.19—42. See also the results of an earlier survey in: Inner Mongolia and the Region of the Great Wall, Archaeologia Orientalis B ser. 1 (1935). Eleven sites were involved in this survey from the ruins of a village at Ku-miao-ts'un in the east to Harasashi, Wu-yüan, ibid, 14—16.

[76] Kansu was in the past said to be under the influence of a culture with 'Scythian' or Western affinities in the Shang and Chou periods, see G. Haloun, Zur Üe-tsi Frage, ZDMG 91 (1937), 246. Cf. Kwang-chih Chang, Archaeology of Ancient China, 235. Recent finds from Kansu indicate that at least some of the inhabitants based their livelihood on the herding of horses, sheep and cattle. This suggests a culture with an economic base similar to that found in the Altai. See for example the sacrifices of horses, cattle and sheep in the kurgan at Karakol, S. V. Kiselev, SE (1935), 1.99—102. However, Chinese artifacts have been found in this region. For a recent find of 340 bronzes (some inscribed) attributed to the Western Chou at Paitsaopo see Hsin-wen Lan, Finds from Kansu, in: New Archaeological Finds in China (Peking 1972), 30. Also 17 Chin (221—207 B.C.) bronzes, one inscribed with imperial edicts, from Shangyuan-chia in Kansu, ibid.

[77] On the existence of an independent cultural centre in the Ordos parallel to the Tagar Culture of the Minusinsk Basin, see B. Karlgren, New Studies on Chinese Bronzes; Ordos and Huai, BMFEA 9 (1937), 97—113; M. Loehr, Ordos Daggers and Knives, Artibus Asiae 12.1/2 (1949), 23. This is stressed by J. Průšek, Chinese Statelets, 102, 105—106. The bronzes from Sui-yuan were originally attributed to the Hsiung-nu and dated c. 500—100 B.C., so: Inner Mongolia, 10—13; O. Maenchen-Helfen, Huns and Hsiung-nu, Byzantion 17 (1944/45), 243. Both the dating and the ethnic attribution are controversial, see K. Jettmar, Die Frühen Steppenvölker, 160—164, 166—169 who argues for several chronological horizons among the Ordos bronzes before, during and after the Hsiung-nu. Initially the exclusive use of bronze and predominance of the Animal Style of decoration were seen to be at variance with what was known about the Hsiung-nu; but if the new finds at Tung-shan hsiang are taken to belong to the Hsiung-nu, there is now increased evidence of the Animal Style among the Hsiung-nu or their subordinate tribes, see J. Průšek, Chinese Statelets, 115 cf. 117. On a cache of 71 bronzes chiefly arms and tools showing Animal Style as well as Eastern Chou characteristics see the finds from Chao-wu, Inner Mongolia reported in: K'ao-ku (1959), 6, cf. RBS (1959), no. 337. For the view that most of the Ordos bronzes are the product of a culture which preceded that of the Hsiung-nu in the Ordos region see J. Průšek, OLZ 62.7/8 (1967), 330, 335; Idem, Chinese Statelets, 102.

[78] A. P. Okladnikov, The Soviet Far East in Antiquity: An Archaeological and Historical Study of the Maritime Region of the U.S.S.R. (Toronto 1965), 148, 150—151, 156—162, 165, 168. Chinese influence was already strong in southern Manchuria in the Warring States period and traces of the Great Wall north of Chih-feng, Jehol suggest that both the wall and the Han frontier was considerably further north in this area than previously assumed, see Chu-ch'en T'ang, KKHP (1956), 1.29—42.

[79] A. P. Okladnikov, Soviet Far East in Antiquity, 148, Han coins from graves near Port Arthur; 150 *wu-chu* coins from graves at Lo-lang. For fragments of Chinese mirrors in the urn burials from Okamoto on Kyushu island, see Kishiwa Oyama, Yayoi-Kultur: Eine prähistorische Kultur der japanischen Inseln, in: Jubiläumsband, Deutsche Gesellschaft für Natur- und Völkerkunde Ostasiens, 1 (Tokyo 1933), 127—134.

[80] For the latter see above p. 685, n. 30.

[81] See the sites discussed above, p. 684, n. 26.

[82] J. F. Haskins, BNBC 40.1/2 (1956), 21, 30. For the very fine silk cover of a saddle blanket in Pazyryk kurgan 5 see S. I. Rudenko, Frozen Tombs, 305.

[83] Silk may also have gained religious associations. The frequency of burials in Siberia and the Tarim Basin of men and women wearing silk apparel suggests the material may have become important in funeral rituals. Such a conclusion is also suggested by the lavish way in which the Noin Ula tombs are literally lined with silk.

[84] See kurgans 1, 6 and 24. S. I. Rudenko, Noin Ula, 108—112.

[85] J. Průšek, Chinese Statelets, 171. Rudenko suggested that the silks and four-wheeled wagon in Pazyryk kurgan 5 are the wedding gifts which accompanied a Chinese princess sent north to be the wife of a nomad chief in the Altai. His only evidence for this statement, however, is that Chinese princesses were married to Wu-sun and Hsiung-nu rulers in the second century B. C., S. I. Rudenko, Frozen Tombs, 191—193, 305. Rudenko also stressed the close contact between the Altai and China in an article intended to familiarize Chinese scholars with his excavations, see S. I. Rudenko, Louen Tchong-kouo yu Altai pou-lo ti kou-tai kouan-hi, KKHP (1957), 2.37—48. The theory is untenable. Chinese interests had not yet even reached into the area of the later Great Wall, cf. J. Průšek, Chinese Statelets, 226—227. For the wagon as a local construction for the purpose of the funeral procession, see K. Jettmar, Die Frühen Steppenvölker, 116. On the yokes see M. A. Littauer, The Function of the Yoke Saddle in Ancient Harnessing, Antiquity 42 (1968), 29, fig. 2.

[86] HS 91.5b, trans. in: N. L. Swann, Food and Money in Ancient China (Princeton 1950), 430. On the profits to be gained by raising horses and cattle among the Jung and Ti see SC 129.7a, trans. N. L. Swann, ibid., 439, cf. HS 91.11a.

[87] For the wall as an effort to resist 'frontier pull' (i. e. an expansion of the Chinese beyond the region of centrally controlled irrigation agriculture) see O. Lattimore, Origins of the Great Wall of China: A Frontier Concept in Theory and Practice, GJ 27.4 (1937) = Studies in Frontier History (Paris 1962), 105—115.

[88] It is difficult to find evidence for this stage archaeologically, since until recently there has been very little excavation in Kansu and that portion of Mongolia on the Chinese side of the frontier. For recent finds of Chinese bronzes in Kansu, see p. 693, n. 76.

[89] The earliest literary reference to silk people, Seres, which we possess is in a fragment of Apollodorus of Artemita, who states that the kingdom of Bactria streched as far as the Seres and the Phrunoi (see text quoted below p. 699, n. 110). The etymology of Seres and the product *serikon* is frequently traced back to the Chinese **siəg* > *si* see W. Simon, Zur Rekonstruktion der altchinesischen Endkonsonanten. 1. Teil, MSOS 31.1 (1928), 197; most recently again, F. Altheim and R. Stiehl, Geschichte Mittelasiens im Altertum (Berlin 1970), 436—438. But this does not prove that the word came into Greek directly from Chinese nor that the Seres in our texts are always the Chinese. Most likely, if the etymology is correct, one or more intermediary stages were involved. For example, the reading *sirka* in Kh. Inscr., no. 697 (although of course the document itself is much later) may represent such an intermediate stage, cf. A. M. Boyer, E. J. Rapson, E. Senart and P. S. Noble (eds.), Kharoṣṭhī Inscriptions Discovered by Sir Aurel Stein in Chinese Turkestan (Oxford 1929), 3.308; R. C. Agrawala, A Study of Textiles and Garments as

Depicted in the Kharoṣṭhī Documents from Chinese Turkestan, Bhāratiya Vidyā 14 (1953), 77. For the original homeland of the Yüeh-chih, see G. Haloun, ZDMG 91 (1937), 256—289 and E. G. Pulleyblank, JRAS (1966), 11—32. A similar view on the derivation of Seres is held by E. G. Pulleyblank, The Consonantal System of Old Chinese, AM 9 (1962), 229—230.

[90] SC 110, cf. B. Watson, Records 2.160., 162 On the Yüeh-chih in Kansu see E. G. Pulleyblank, JRAS (1966), 29—31, cf. J. Průšek, Chinese Statelets, 72.

[91] O. Lattimore, Inner Asian Frontiers, 461.

[92] e. g. E. D. Phillips, New Light on the Ancient History of the Eurasian Steppe, AJA 61 (1957), 273; A. Herrmann, in: S. Hedin, Southern Tibet, 8.131—136; cf. on such theories the critical comments of O. Maenchen-Helfen, Archaistic Names of the Hsiung-nu, CAJ 6.4 (1961), 252—257. The Hsiung-nu were definitely not Tung-hu such as the Hsien-pi, cf. G. Schreiber, MS 17 (1947), 162. Also O. Lattimore, Inner Asian Frontiers, 342, 451; Wang Gung-wu, Chinese Historians and the Nature of Early Chinese Foreign Relations, JOSA 3.2 (1965), 41. On the term *Hu* see J. Průšek, Chinese Statelets, 225—226 who points out that by the time of the Han, *Hu* had become a general term for nomads of the North.

[93] Several hundred Hsiung-nu words were transcribed in contemporary Chinese accounts. Some have seen these as primarily Mongol, so P. Pelliot, in: R. Grousset, Histoire de l'Extrême-Orient (Paris 1929), 207; K. Shiratori, Sur l'origine des Hiong-nou, JA 202 (1923), 71—81. Some Hsiung-nu terms may be Iranian loan words, see O. Maenchen-Helfen, Byzantion 17 (1944/45), 224—225. One of the Hsiung-nu's vassals, the Hsien-pi, on the basis of the language spoken by the T'o-pa dynasty, one of the states the Hsien-pi gave rise to in northern China, has been shown to be Turkish, W. Eberhard, Das Toba Reich (Leiden 1949), 328—345; L. Bazin, Recherches sur les Parlers T'o-pa, TP 2 ser. 39 (1950), 228—329; G. Schreiber, MS 14 (1949/55), 388. On the assumption that the Hsiung-nu are closely related to the later European Huns, it has been argued that their language is a form of proto-Bulgarian, so O. Pritsak, Ein hunnisches Wort, ZDMG 104 (1954), 124—136; Idem, Kultur und Sprache der Hunnen, in: Festschrift für D. Gyzevskyj zum 60. Geburtstag (Berlin 1954), 246—249.

[94] Průšek has noted that the Turkish ethnic element which was once thought to be the predominant one among the Hsiung-nu has been shown by further research to be quite 'insignificant', so J. Průšek, Chinese Statelets, 16. Microscopic investigation of the hair from the Noin Ula burials shows that the dead were Mongoloid and thus differed considerably from the earlier inhabitants of the Altai, S. I. Rudenko, Hsiung-nu, 100. On the skulls see K. Jettmar, BMFEA 23 (1951), 157—158; G. F. Debets, Paleoantropologiia, 120—122; for the Mongoloid features of a skull found at Noin-Ula in 1961 see T. A. Tóth, Palaeoanthropological Finds from the Valley of Hudjirte (Noin-Ula, Mongolia), AArchHung 14.3/4 (1962), 251—253. The most recent study of the race of the Hsiung-nu is O. Maenchen-Helfen, Huns, 367—375. On the general problem of the correlation between ethnic and linguistic divisions see R. Naroll, On Ethnic Unit Classification, Current Anthropology 5 (1964), 283—291.

[95] Eberhard distinguishes three types of nomadic social structure: (1) The Tibetan form characterized by a weak tribal organization due to the atomization of the society by the high mountains. In warfare the Tibetans generally use infantry and the small inferior Tibetan horses; (2) The Mongolian type with a much stronger tribal unit specializing in raising cattle, camels and horses; (3) The Turkish type is structurally the most developed with 'leader tribes' who traditionally supply the leaders of tribal confederations. The economic basis is primarily horse breeding which requires greater organization than sheep rearing. Types two and three are difficult to distinguish since some groups like the Hsiung-nu had large numbers of horses, cattle and sheep. Hence the Hsiung-nu were representatives of the Turkish type and the Hsien-pi representative of the Mongol type, so W. Eberhard, Conquerors and Rulers, 69—71, 78—79. On infantry in nomad armies see D. Sinor, Oriens

Extremus 19.1/2 (1972), 172; confirmed by the discovery of a wooden plaque depicting an infantry battle from a site near Tepsei mountain by the Yenisey River in 1968. The plaque is dated to the third to fifth centuries of our era. See M. P. Griaznov, Miniatiury Tashtykskoi kul'tury, AS 13 (1971), 99—106, fig. 3.2.

[96] O. Lattimore, Inner Asian Frontiers, 461; W. Eberhard, Conquerors and Rulers,75. On the governmental organization of the Hsiung-nu confederation see O. Pritsak, Die 24 Ta-ch'ên, Oriens Extremus 1.2 (1954), 178—201 (by far the most thorough study); Mori Masao, Der Staat der Hiung-nu, SGZ 59.5 (1960), 1—21, cf. Der Islam 36 (1960), 126—127. For an analysis of the composition of confederations among Altaic tribes and the role of the leading clan see O. Pritsak, Stammesnamen und Titularen der altäischen Völker, UAJ 24.1/2 (1952), 52—55. For a parallel instance to the adoption of Chinese titles by Hsiung-nu rulers see the adoption of some Chinese titles by the Turks in the early T'ang period, H. Ecsedy, Old Turkic Titles of Chinese Origin, AOrientHung 18 (1965), 83—91 who notes however that this had little influence on the actual governmental structure of the Turkish tribes. Modern anthropologists tend particularly to stress the role of a single gifted individual in the creation of formidable nomad armies, see L. Krader, Principles and Structures in the Organization of the Asiatic Steppe-Pastoralists, SWJA 11 (1955), 67—92; R. B. Ekvall, The Nomadic Pattern of Living among Tibetans as Preparation for War, American Anthropologist 63 (1961), 1250—1263 and A. de Boucheman, Note sur la rivalité de deux tribus moutonnières de Syrie: Les 'Mawali' et les 'Hadidiyn', REI 8 (1934), 9—58.

[97] Unlike other German rulers, Maroboduus possessed autocratic power over the Marcommani and succeeded in building a well-trained army. See J. Dobiaš, King Maroboduus as a Politician, Klio 38 (1960), 155—160; E. A. Thompson, Maroboduus, in: Γέρας: Studies presented to G. Thomson (Prague 1963), 203—210; E. Swoboda, Carnuntum: seine Geschichte und seine Denkmäler^{4} (Cologne 1964), 234.

[98] It is impossible to determine how much of the central organization cited by Ssu-ma Chien (SC 110 cf. Watson, Records 2.163—165) was introduced after the rise of the Hsiung-nu Empire and how much existed already in the third century B.C. The impact of Chinese influence as a contributing factor must not be underestimated. Furthermore, comparison between the two great steppe empires is difficult, since the Hsien-pi, the successors of the Hsiung-nu, may have been influenced by the organization of their predecessors just as the government of Kucha was influenced by the Hsiung-nu. On this see Mau-tsai Liu, Kutcha und seine Beziehungen zu China vom 2. Jh. vor bis zum 6. Jh. n. Chr. (Wiesbaden 1969), 14.

[99] Eberhard has stressed that difference of race, nationality and language played no role in nomadic empires. W. Eberhard, Conquerors and Rulers, 68. See also O. Pritsak, in: Festschrift Gyzevskyj, 240.

[100] HHS 80.9b, cf. G. Schreiber, MS 12 (1947), 171—172. The HHS notes that early in the second century the *Shan-yü* of the Hsiung-nu fled and the Hsien-pi moved into his territory. More than 100,000 Hsiung-nu remained and these henceforth called themselves Hsien-pi. Also tribal intermixing could occur by transplanting people by force. So the Hsien-pi moved members of their confederacy to the forests and steppes southwest of Ting-ling and northeast of the Wu-sun. See the 'Wei-shu' trans. G. Schreiber, MS 12 (1947), 155. Eberhard has shown that while the leading tribes of the T'o-pa kingdom spoke Turkish, the kingdom itself was composed 60% of tribes of Turkish origin, 35% of Mongol origin, two tribes were Tungus and one was of Indo-European origin. W. Eberhard, Das Toba-Reich, 298—328. The same puzzle of racial origins still fascinates students of the Kuṣāṇa Empire, see most recently B. Puri, The Nationality of the Kushans, Proceedings of the International Conference on the History, Archaeology and Culture of Central Asia in the Kushan Period, Dushanbe, September 27—October 6, 1968 (Moscow 1974), 182—189.

[101] The identification of the Huns with the Hsiung-nu was originally based on geographic descriptions in the Chinese histories. The identification of the country of Su-t'ê, also called Yen-ts'ai in Wei-shu 102.3b, with the Alans was central to the controversy, see F. HIRTH, Über die Wolga-Hunnen und Hiung-nu, SBAW (1899), 2.245—278; T. W. KINGSMILL, Dr. F. Hirth and the Hiung-nu, JRASNCB 34 (1901), 136—141, cf. F. HIRTH, Mr. Kingsmill and the Hsiung-nu, JAOS 30 (1908/09), 32—45. For identification of Su-t'ê with Sogdiana see K. SHIRATORI, A Study on Su-t'ê or Sogdiana, MTB 2 (1936), 81—145. It has also been shown that on textual grounds the equations of the 'Wei-shu' are of no value, so O. MAENCHEN-HELFEN, Byzantion 17 (1944/45), 223—231 and K. ENOKI, Sogdiana and the Hsiung-nu, CAJ 1.1 (1955), 43—62. For discussion of the archaeological material see also K. JETTMAR, Hunnen und Hsiung-nu — ein archäologisches Problem, Archiv f. Völkerkunde 6/7 (1951/52), 174—175 who believes in the Hun/Hsiung-nu equation. For a new effort to identify certain cemeteries and burial practices in South Russia with the Huns, see I. P. ZASETSKAIA, Osobennosti pogrebal'nogo obriada gunnskoi ėpokhi na territorii stepei Nizhnego Povolzh'ia i Severnogo Prichernomor'ia, AS 13 (1971), 61—72. The similarity of the terms χων for Hsiung-nu in a Sogdian letter (see W. B. HENNING, The Date of the Sogdian Ancient Letters, BSOAS 12 [1948], 615), *Huna* in India (cf. U. THAKUR, The Second Phase of the *Huna* Invasion of India, JIH 44 [1966], 70—71) and Χοῦνοι in the West has been taken as proof of the identity of the Hsiung-nu with the Huns. Questioned by O. MAENCHEN-HELFEN, Pseudo-Huns, CAJ 1.2 (1955), 101—106; IDEM, Huns, 367—375. Cf. R. FRYE, Persia, 313 n. 38 for the suggestion that Hun may have come to mean "a fierce and terrible people". The Hsiung-nu/Hun equation is again supported by W. SAMOLIN, Hsiung-nu, Hun, Turk, CAJ 3 (1957/58), 143—150; O. PRITSAK, in: Festschrift Gyzevskyj, 239, 241—242, cf. F. ALTHEIM, Geschichte der Hunnen (Berlin 1969), 1.22 who favours an origin among the Hsien-pi. BERNSHTAM has argued that the Kenkol River find in the Talas Valley with its Mongoloid skeletons was a centre of the Hsiung-nu/Huns in the first century B.C. whence their rule eventually extended to the Volga. For the Kenkol excavations of 1938/39 see A. N. BERNSHTAM, Kenkol'skii Mogil'nik, Arkheologicheskie ėkspeditsii Ėrmitazha, 2 (Leningrad 1940), 30—31; IDEM, Osnovnye etapy istorii kul'tury Semirech'ia i Tian'-Shania, SA 11 (1949), 359—365; also J. PRITSAK, in: Festschrift Gyzevskyj, 243. Cf. S. S. SOROKIN, O datirovke i tolkovanii Kenkol'skogo mogil'nika, KSIIMK 64 (1956), 3—14 who suggests a second to fourth century date for these tombs. Others have pointed out that people similar to those at Kenkol were already in Sarmatia by the third century B.C., cf. K. F. SMIRNOV, Sarmatskie plemena Severnogo Prikaspiia, KSIIMK 34 (1950), 103, cf. also the conclusions reached from a study of the anthropological material from the Choresmian expeditions, that the 'Huns' of Central Asia differ considerably racially from the Hsiung-nu of the Transbaikal region. See the study of the skulls from the fortress sites of Kalalygyr, Kunja-uaz and Kanga-kala in: T. A. TROFIMOVA, Palaeoanthropological Remains Coming from the Territory of Ancient Xorezm, E&W n.s. 8 (1958), 288—301.

[102] EBERHARD has quite correctly pointed out that nomad empires do not, as is generally assumed, consist of masses of free herdsmen led by a man of exceptional military ability, W. EBERHARD, Conquerors and Rulers, 69, cf. O. LATTIMORE, Inner Asian Frontiers, 65.

[103] ROSTOVTZEFF, who believed that the Hsiung-nu had no culture of their own, argued that they borrowed everything, including their military techniques, from the 'Sarmatian' tribes of Central Asia, who joined them in raids on China. The chief Sarmatian military weapons were the iron sword, the heavy spear and mail armour. M. ROSTOVTZEFF, Iranians and Greeks in Southern Russia, 203—204. For Sarmatian weapons see K. F. SMIRNOV, Vooruzhenie Savromatov, MIA 101 (Moscow 1961), passim. On the connexion between the Hsiung-nu and Sarmatians see J. PRŮŠEK, Chinese Statelets, 116—117; K. JETTMAR, BMFEA 23 (1951), 160 and IDEM, Die Frühen Steppenvölker, 52. The oldest known finds of both scale and body armour are from Soviet Central Asia between the Syr and the Amu Darya. Body armour has been found in the fourth century B.C. funeral monument at Tchirik-rabul, see S. P. TOLSTOV, Les Scythes de l'Aral et le Khorezm, Iranica Antiqua 1 (1961), 76. On armour in Hsiung-nu graves see S. I. RUDENKO,

Hsiung-nu, 54. Chinese accounts of Mo-tun's rise describe how he trained a formation of horse-archers, SC 110, cf. WATSON, Records 2.161. On the epic elements in this story see O. LATTIMORE, Inner Asian Frontiers, 463—465.

[104] Both sites are further east than other Hsiung-nu finds and hence the hesitation in attributing the sites to them directly. The sixty-three graves excavated at Tung-shan yielded horse skulls, 71 iron swords as well as spears and axes, also of iron. The cemetery contained 450—500 graves in which there were found Chinese coins, mirrors and pottery of the reigns of Wu-ti (140—87 B.C.) and Shao-ti (86—74 B.C.). The pit graves in the cemetery at Cha-lai-no-erh contained Chinese pottery, lacquer objects and mirrors as well as bone arrowheads but no weapons. See CHENG LUNG, Nei Meng-ku Cha-lai no-erh ku mu ch'ün tiao-ch'a chi, Wen-wu (1961), 9.16—19. PRŮŠEK's conclusion that these finds reflect far-reaching changes in social organization, i. e. the replacement of the democratic band of mounted archers by a despotically commanded phalanx of heavy mailed cavalry, perhaps goes too far, see J. PRŮŠEK, OLZ 62.7/8 (1967), 330—331 and IDEM, Chinese Statelets, 114—116. A link in the chain of eastward expansion of Sarmatian tactics and weapons may be found in the kurgans from the Bukhara Oasis. For example, the kurgans at Kyzyl-Tepe yielded Sarmatian iron long swords, arrowheads and a coin of Heliocles. For a summary of the contents of the Bukhara burials see O. V. OBELCHENKO, Kurgannye mogil'niki epokhi Kushan v Bukharskom Oazise, Proc., Dushanbe, 204—206.

[105] Cf. the two sites mentioned above n. 104. The Hsien-pi lived in the forests of north and east Manchuria where the land is more suitable for agriculture, see O. LATTIMORE, Inner Asian Frontiers, 108—111, 115, 122—123. The 'Wei-shu' states that after their defeat by Mo-tun the Hsien-pi fled to the area of Liao-tung outside the Great Wall, cf. G. SCHREIBER, MS 12 (1947), 166. On the Hsiung-nu conquest of the Wu-huan, see ibid. 148, 156.

[106] Shortly after the defeat of Kao-tsu in 201 B.C., Mo-tun launched a great campaign to the North and conquered the tribes of Hun-yü, Ch'ü-she, Ting-ling, Ko-k'un and Hsin-li. SC 110, cf. WATSON, Records, 2.165. On Hsiung-nu rule in the Minusinsk Basin see K. JETTMAR, Die Frühen Steppenvölker, 77—78. Unlike the Hsiung-nu, the invaders of this area cremated their dead. The kingdom of Ting-ling which seems to have been in the Minusinsk Basin was said to lie north of K'ang-kiu, 7,000 *li* from the court of the *Shan-yü* and to have 60,000 soldiers. See account in HS 94A, cf. DE GROOT, HdVZ, 61—62 and in the 'Wei-lio', cf. E. CHAVANNES, TP 2 ser. 6 (1905), 560. There are few finds of the Hsiung-nu period in the High Altai (see above for dates of Pazyryk and related sites). Cf. possible reasons for this suggested by K. JETTMAR, BMFEA 23 (1951), 141, 209.

[107] For the Hsiung-nu conquests in the Tarim Basin see SC 110, cf. WATSON, Records 2. 167—168 and for the later period see MAU-TSAI LIU, Kutscha, 14, 44, 52 and below, p. 715, n. 227. The heartland of the Wu-sun tribes was around Lake Issyk-kul. BERNSHTAM has suggested a local origin for them. A. N. BERNSHTAM, SA 11 (1949), 359—365. Cf. the more widely accepted view that they are related to the Hsiung-nu and migrated from the area of the Ordos or from some region further north and west. Cf. W. FRUMKIN, Archaeology in Soviet Central Asia III: Kirgiziya and the Ferghana Valley, CAR 12 (1964), 18—19. The movement of new peoples with different burial practices to the West also appears to have begun before the rise of the Hsiung-nu empire, cf. K. JETTMAR, BMFEA 23 (1951), 207—208.

[108] SC 110, cf. WATSON, Records, 2.167—168.

[109] W. W. TARN, The Greeks in Bactria and India, 2nd ed. (Cambridge 1951) (= GBI^2), 83—87, 104—113, 474—477. Cf. G. MONTELL, Sven Hedin's Archaeological Collection from Khotan, BMFEA 7 (1935), 155—156 who suggests that some of the native pottery from Yotkan resembles in shape Greek oenochoai.

[110] TARN argued on the basis of his belief that Bactria had no native sources of gold, that all of the gold needed in this region had to be imported from the Altai. Hence when

this source of supply was cut off, the Greek rulers of Bactria sent out an expedition to the Altai. For literature and discussion of this see below p. 750, n. 458. The argument was buttressed by a number of points: Chang Ch'ien found walled towns, vineyards and irrigation systems in Ferghana (Ta-yüan) which must be of Greek origin since none of these features were Iranian. Soviet excavations have upset all of these assumptions. For early towns and irrigation systems in Central Asia see below p. 810, n. 699. It was thought that the 'postal roads' Chang Ch'ien found on his travels through Ta-yüan must be of Greek origin. Tarn based himself on the faulty translation of SC 123 in: F. Hirth, The Story of Chang K'ien, China's Pioneer in Western Asia, JAOS 37 (1917), 94. The error was first noted by A. Waley, The Heavenly Horses of Ferghana, History Today 5 (Feb. 1955), 103. Watson correctly translates the phrase as "guides and interpreters", cf. Watson, Records, 2.165. The presence of such Greek words as *stater*, *drachma*, *strategos* and *parembole* in the Kharoṣṭhī documents from the Tarim Basin was said by Tarn to be a 'deposit' in the Khotan region from the conquest of Euthydemus. For the true nature of these documents and the origin of the Greek words they contain see below, p. 804, n. 686. The only piece of literary evidence is a famous fragment of Apollodorus of Artemita quoted by Strabo XI.11.1 = F. Gr. Hist. III C., no. 779. F7a: τοσοῦτον δ' ἴσχυσαν οἱ ἀποστήσαντες Ἕλληνες αὐτὴν διὰ τὴν ἀρετὴν τῆς χώρας, ὥστε τῆς τε 'Αριανῆς ἐπεκράτουν καὶ τῶν 'Ινδῶν, ὥς φησιν 'Απολλόδωρος ὁ 'Αρταμιτηνός, καὶ πλείω ἔθνη κατεστρέψαντο ἢ 'Αλέξανδρος· καὶ μάλιστα Μένανδρος — εἴ γε καὶ τὸν Ὕπανιν διέβη πρὸς ἕω καὶ μέχρι τοῦ 'Ισάμου (?) προῆλθε —, τὰ μὲν [γὰρ] αὐτός, τὰ δὲ Δημήτριος ὁ Εὐθυδήμου υἱὸς τοῦ Βακτρίων βασιλέως. οὐ μόνον δὲ τὴν Παταλημὴν κατέσχον, ἀλλὰ καὶ τῆς ἄλλης παραλίας τήν τε Σαραόστου καλουμένην καὶ τὴν Σιγέρδιδος βασιλείαν· καθ' ὅλου δέ φησιν ἐκεῖνος τῆς συμπάσης 'Αριανῆς πρόσχημα εἶναι τὴν Βακτριανήν· καὶ δὴ καὶ μέχρι Σηρῶν καὶ Φρυνῶν (?) ἐξέτεινον τὴν ἀρχήν. (For the proposed etymology of Seres see above p. 694, n. 89). It is argued that Apollodorus is a most reliable and knowledgeable source for the history of Parthia and Central Asia, cf. F. Altheim and R. Stiehl, Geschichte, 359—379 (but cf. M. Bussagli, Indian Events in Trogus Pompeius, E&W 7.3 [1956], 229—241). The theory of Tarn about a Bactrian expedition to the Altai is accepted with various modifications by many scholars: S. V. Kiselev, Drevniaia Istoriia², 357—359; K. Jettmar, BMFEA 23 (1951), 201; J. Needham, Science and Civilization in China (Cambridge 1954), vol. 1.176; A. K. Narain, The Indo-Greeks (Oxford 1957), 25—27 attributes the expedition to Euthydemus II or Demetrius and supports his arguments by reference to the nickel coins struck by these Bactrian rulers (for the fate of this theory see below, p. 706, n. 162); so also A. M. Simonetta, A New Essay on the Indo-Greeks, the Sakas and the Pahlavas, E&W n. s. 9 (1958), 157; R. D. Barnett, The Art of Bactria and the Treasure of the Oxus, Iranica Antiqua 8 (1968), 51—52 who cites as support the presence of coins of Euthydemus in the Treasure of the Oxus; cf. S. I. Rudenko, Frozen Tombs, 223; F. Altheim and R. Stiehl, Geschichte, 431—439 who attributes the campaign to Demetrius or Eucratides and cites as proof 3 obols of Eucratides excavated from a kurgan Mazar-i Serif. — The site referred to by Altheim is the Tulkhar burial ground in the Bishkent valley. The 3 obols found were struck in imitation of coins of Eucratides and are similar to imitations of the same king from Tup-khona. Mandel'shtam dates this class of imitations to the late second and possibly early first centuries. They thus have nothing to do with the supposed expedition of Eucratides. See A. M. Mandel'shtam, Novye dannye o tulkharskom mogil'nike po rabotam 1958 g., TIIANTadzhSSR 31 (1961), 57; Idem, Kochevniki na puti v India, MIA 136 (Moscow 1966), 137—159 (on the coins and the date of the Tulkar burials); Idem, K predkushanskomu chekanu Baktrii, ĖV 16 (1966), 85—91 (where he studies the dating of the Eucratides imitations from Tulkhar and Tup-khona). — Cf. A. Dihle, The Conception of India in Hellenistic and Roman Literature, PCPhS 190 (1964), 18. The possibility of accurately identifying the people mentioned by Apollodorus is rejected by many scholars of good sense: e. g. O. Maenchen-Helfen, The Legend of the Origin of the Huns, Byzantion 17 (1944/45), 248—251; Idem, Pseudo-Huns, CAJ 1.2 (1955), 102—103; Hiroshi Wada, Prokops Rätselwort Serinda und die Verpflanzung des Seidenbaus von China nach dem oströmischen Reich, Inaug.Diss. (Cologne 1968), 13—14.

[111] For literature on these two sites see above p. 698, n. 104. MAENCHEN-HELFEN's list of Hsiung-nu sites is based on finds of compound bows. This weapon is certainly not confined to the Hsiung-nu. See O. MAENCHEN-HELFEN, Byzantion, 17 (1944/45), 340; cf. F. E. BROWN, A Recently Discovered Composite Bow, SemKonda. 9 (1937), 1—10 describing a bow found at Yrzi on the Euphrates. The most comprehensive collection of the evidence is now in: O. MAENCHEN-HELFEN, Huns 221—232.

[112] In northern Mongolia the Hsiung-nu culture replaced the earlier stone-cist culture which dates back to as early as the eighth century B.C. See K. JETTMAR, Die frühen Steppenvölker, 142—144; J. PRŮŠEK, OLZ 62.7/8 (1967), 335.

[113] S. I. RUDENKO, Hsiung-nu, 11—20. The necropolis can be relatively accurately dated to the late first century of our era from the dated lacquer cup in kurgan 6. All of the graves had been plundered already in antiquity (possibly by the Wu-huan, cf. HHS 80.2b and 'Wei-shu', cf. G. SCHREIBER, MS 12 [1947], 156). Whether one or more of the kurgans is the grave of a *Shan-yü* is uncertain. Others have argued that Noin Ula may belong to some tribe of Hsiung-nu vassals who assimilated their culture, so K. JETTMAR, BMFEA 23 (1951), 158 and IDEM, Archiv f. Völkerkunde 6/7 (1951/52), 172. Graves containing board-built coffins have also been excavated in the Tuva region and have been attributed to the Hsiung-nu. Apart from the coarse ware pottery, the Tuva graves yielded no artifacts similar to those from other Hsiung-nu sites in Mongolia and Transbaikal. S. I. RUDENKO, Hsiung-nu, 20.

[114] S. I. RUDENKO, Hsiung-nu, 11.

[115] J. WERNER, Ein hunnisches Lager der Han-Zeit in Transbaikalien, Sinica 14 (1939), 193—194; A. P. OKLADNIKOV, Arkheologicheskie issledovaniia v Buriat-Mongolii, IAN-SSSR, ser. istorii i filosofii 8.5 (1951), 448—449 on Chida; G. P. SOSNOVSKII, Raskopki Il'movoi Padi, SA 8 (1946), 51—67 on Il'movaia Pad.

[116] J. WERNER, Sinica 14 (1939), 193—196; A. V. DAVIDOVA, Ivolginskoe gorodishche, SA 25 (1956), 261—300; cf. A. P. OKLADNIKOV, IANSSSR, ser. istorii i filosofii 8.5 (1951), 449. Sometime in the first century B.C. the fort was plundered and burned. It was never rebuilt. Also for the suggestion that Chinese prisoners lived there, see K. JETTMAR, Die Frühen Steppenvölker, 145.

[117] A. V. DAVIDOVA and V. P. SHILOV, K voprosu o zemledelii u gunnov, VDI (1953), 2. 193—201; cf. K. JETTMAR, Archiv f. Völkerkunde 6/7 (1951/52), 170. TSUNODA BUNEI favours the attribution of the house to Li Ling but suggests that further evidence is needed. TSUNODA BUNEI, Iwayuru 'Ri Ryo no teitaku ato' ni tsuite, Kodaigaku 6 (1957), 87—95, cf. RBS (1957), no. 412.

[118] RUDENKO assumes that the mud-brick houses of Ivolginsk may have been built by Chinese prisoners since the Hsiung-nu nobility lived in large log-built dwellings. S. I. RUDENKO, Hsiung-nu, 30—31.

[119] Ssu-ma Chien places the capital north of Tai and Yün-chung, SC 110, cf. WATSON, Records, 2.163. The 'Wei-lio' locates the capital on the river Ngan-si in Inner Mongolia, cf. E. CHAVANNES, TP 2 ser. 6 (1905), 560. Chinese sources do refer to nomads living in towns. The Hsien-pi ruler T'an-shih-huai had 50 towns in his empire, HHS 80.14b, cf. G. SCHREIBER, MS 12 (1947), 187, cf. MAU-TSAI LIU, Kutscha, 60. So also the T'u-yü-hun in the 'Chin shu' 97.4b, cf. T. D. CARROLL, Account of the T'ŭ-yü-hŭn in the History of the Chin Dynasty (Berkeley 1953), 4, 20 ns. 24 and 25.

[120] For example in graves at Abakanskaya and by the Tashkyk. Both sites are in the Minusinsk Basin. A. M. TALLGREN, The South Siberian Cemetery of Oglakty from the Han period, ESA 11 (1937), 87—88.

[121] O. LATTIMORE, Inner Asian Frontiers, 70.

[122] Ying-shih Yü, Trade and Expansion in Han China (Berkeley 1967), 168. Yü throughout his discussion about the export of iron either to Rome or the northern nomads fails to distinguish between cast and wrought iron.

[123] The earliest iron objects found to date in Central Asia come from Iaz-Tepe level I and are dated to early in the first millennium B.C. By the middle of that millennium iron objects become very numerous indicating a well developed local industry. V. M. Masson, Drevnezemledel'cheskaia kul'tura Margiani, MIA 73 (Moscow/Leningrad 1959), 29—30, 104, 106—108, cf. also the excavations of Kobadian, M. M. D'iakonov, Arkheologicheskie raboty v nizhnem techenii reki Kafirnigana (Kobadian) (1950—1951 gg.), MIA 37 (Moscow/Leningrad 1953), 253—254, 273 and Idem, Slozhenie klassovogo obshchestva v Severnoi Baktrii, SA 19 (1954), 121—140. Somewhat curious is the C^{14} date yielded by charcoal from early Iron Age excavations at Semipyatnaya gorge (1060 ± 80 B.C.). S. V. Butomo, Radiocarbon 7 (1965), 228. For the date of appearance of iron in Northern India, see B. R. Subrahmanyum, Appearance and Spread of Iron in India — an Appraisal of Archaeological Data, JOIB 13.4 (1964), 350—357. The earliest sites are Hastinapur, Alangirpur and Kausambi, dated by the author to 1000—800 B.C. For India these dates are probably rather early, cf. the controversy discussed below, p. 1020, n. 1529.

[124] In the High Altai iron is introduced in the Pazyryk phase. Although it is uncertain whether it is imported or produced locally, the items, such as horse bits, are so characteristic of a nomad culture and similar to bronze bits from the Altai that they must have been made on the steppe nearby: S. S. Chernikov, Drevniaia metallurgiia i gornoye delo zapadnogo Altaia, KSIIMK 23 (1948), 96—100; K. Jettmar, Die Frühen Steppenvölker, 88; S. I. Rudenko, Frozen Tombs, 127—129, 206—207. See also early occurrences of iron in sixth and fifth century kurgans at Kurai, on the I Akonur steppe, at Tuiakhta and at Blizhnie Elbany. K. Jettmar, BMFEA 23 (1951), 161—162, 164—167, 171—172. In the Minusinsk Basin implements of iron appear only in plentiful supply in the Tes phase (200 B.C. — A.D. 1). M. P. Griaznov, Southern Siberia, 215, cf. 153. Evidence of iron-working (slag and cinders) first appears in the Ob Basin at Us-Nel and Us-Tolt in the first millennium B.C. C. N. Chernetsov and W. Moszynska, Western Siberia, 126. The first literary reference to iron fabrication in China is dated to c. 513 B.C. Sato Taketoshi, Shunjû Sengoku jidai no seitetsugyô, Chûgoku kodaishi kenkyu (1960), 103—125, cf. RBS (1960), no. 67.

[125] For description of a furnace for smelting iron found at Ivolginsk, see S. I. Rudenko, Hsiung-nu, 52. An ancient furnace for smelting iron was found near Minusinsk, see G. v. Merhart, Ein Eisenschmelzofen am Jenissei, ESA 4 (1929), 189—193 (possibly from the late Iron Age). Cast iron cauldrons and sacrifice tables were also produced by the Wu-sun. K. Jettmar, Die Frühen Steppenvölker, 129. The Hsiung-nu possessed abundant iron for weapons, cf. J. Průšek, Chinese Statelets, 115. Lattimore notes the possibility of mining and metal production among nomad tribes, but stresses that most metals must be imported. O. Lattimore, GJ 9.1 (1938) = Studies in Frontier History: Collected Papers, 1928—1958 (Oxford 1962), 253. Others also stress the importance of imported metals and arms from China, cf. D. Sinor, Oriens Extremus 19.1/2 (1972), 174. Such a theory can find no support in the archaeological evidence. Bronze objects from the Transbaikal and from Noin Ula have been subjected to chemical analysis. The copper, lead, tin and trace element content was similar in all specimens except one. This led Rudenko to conclude that of the bronze finds only the Chinese mirrors were imports. S. I. Rudenko, Hsiung-nu, 52—53. On the mineral resources available to the Hsiung-nu from their vassals in the Tarim Basin, see Mau-tsai Liu, Kutscha, 15, 17. See Tolstov's comments on the combination of well-developed industrial arts and nomadism, S. P. Tolstov, Iranica Antiqua 1 (1961), 67, 89—90. Further east in Liao-tang iron becomes plentiful only in the Han period. A. P. Okladnikov, The Soviet Far East, 161. The middle cultural stratum at Senkina Shapka is dated to this time, ibid. 168.

[126] Ploughshares have come from several sites in the Transbaikal, most notably the Wallburg of Ivolginsk. S. I. Rudenko, Hsiung-nu, 28. These ploughshares are small and

probably only penetrated the ground a short way. See the study of A. V. DAVIDOVA and V. P. SHILOV, VDI (1953), 2.193—201. RUDENKO suggests that much of the sowing done in Hsiung-nu territory was done by Chinese deserters and prisoners. Stones for grinding grain have also been found at Ivolginsk. For finds of millet seeds at Il'movaia Pad, Noin Ula and Ivolginsk see S. I. RUDENKO, Hsiung-nu, 24. Millet production among the Hsiung-nu and Wu-huan is also attested in Chinese literary sources. Also among the I-lou in Manchuria, see A. P. OKLADNIKOV, Soviet Far East, 164—165, cf. W. EBERHARD, Conquerors and Rulers, 74. Since millet may also have been cultivated in the oases of the Tarim Basin, this region also cannot be ruled out as a possible source of both the grain itself and of skilled slaves familiar with its cultivation. The word *aḍini* or *aḍiṃni* occurs in a number of Kharoṣṭhī documents: Kh. Inscr., nos. 83, 222, 579 and has been interpreted as meaning millet; so R. C. AGRAWALA, Food and Drinks as Depicted in the Kharoṣṭhī Documents from Central Asia, JOIB 4 (1955), 342. For finds of millet at Tarim Basin sites, see M. A. STEIN, Ancient Khotan, I.376: a wooden bowl containing millet from N. xix near the Niya River site; ibid. 448: several pounds of millet from Kara-dong.

[127] The latest level here yielded bones of numerous domestic and wild animals as well as fish bones and scales. M. P. GRIAZNOV, Istoriia drevnikh plemen Verkhnei Obi, 85—89. The Hsien-pi empire of T'an-shih-huai (mid second century) which replaced the Hsiung-nu confederation was said to contain a number of 'cities', cf. G. SCHREIBER, MS 12 (1947), 187 from the 'Wei-shu'.

[128] JETTMAR stresses that while at Karmir Blur, in a fortress of the Scythian period, a warrior could also be a craftsman, or so the finds seem to indicate, several hundred years later, among the Hsiung-nu, this was impossible. K. JETTMAR, Die Frühen Steppenvölker, 241. The large number of bronzes at Noin Ula which demonstrate better casting techniques are thought to be the work of captured Chinese craftsmen, so S. I. RUDENKO, Hsinng-nu, 53. The high degree of technical skill shown by excavated carpets, leatherwork and pottery is attributed to nomad craftsmen by S. I. RUDENKO, ibid. 47, 51.

[129] For example in the great raid of 166 B.C. SC 110, cf. WATSON, Records, 2.172—173.

[130] The Hsiung-nu ploughshares recall Chinese models, S. I. RUDENKO, Hsiung-nu, 104. JETTMAR suggests that Animal Style decorations may have been produced for the Hsiung-nu by imported craftsmen; so K. JETTMAR, Die Frühen Steppenvölker, 153. The iron produced by the Hsiung-nu seems to have been of sufficient quality to eventually come into use among the Chinese on the Northwest frontier. A number of documents from the *limes* mention implements of "barbarian (*hu*) iron". See CHAVANNES, Documents chinois, nos. 779—781 and MASPERO, Documents chinois, no. 200. On this type of iron see LIEN-SHENG YANG, Notes on Maspero's 'Les Documents chinois de la Troisième Expédition de Sir Aurel Stein en Asie Centrale', HJAS 18 (1955), 148—149. The importation of craftsmen seems on the present archaeological evidence a far more likely explanation than trade for the origin of the arms and implements used by the Hsiung-nu. But cf. W. EBERHARD, Conquerors and Rulers, 73 who does not concern himself with archaeological evidence. Cf. A. M. KHAZANOV, O kharaktere rabovladeniia u skifov, VDI (1972), 1. 159—170 who emphasises that slaves can only play a very limited role in a nomad society. This article is an enlightened study and marks a step away from dogmatic Marxist interpretations which demand that every society pass through a phase in which production is primarily dependent on slave labour.

[131] J. WERNER, Sinica 14 (1939), 194; S. I. RUDENKO, Hsiung-nu, 23. In Chinese texts the camel is frequently associated with Hsiung-nu. E. H. SCHAFER, The Camel in China down to the Mongol Dynasty, Sinologica 2.3 (1950), 177—178.

[132] The archaeological evidence is relatively clear, the literary not. Most of the horses found in the Altai graves were the small Mongolian horses; however, Pazyryk kurgan 1 contained several fine thoroughbreds usually said to be of a type originating in Central Asia. The

finds of such horses in the Altai are so numerous that many assume that they are the result of local breeding: K. JETTMAR, Die Frühen Steppenvölker, 107; H. G. CREEL, The Role of the Horse in Chinese History, AHR 70.3 (1965), 650, 653; S. I. RUDENKO, Frozen Tombs, 55—57; V. O. VITT, Loshadi Pazyrykskikh kurganov, SA 16 (1952), 164—194 who deals in detail with the horses from the Altai burials. The original report that some of the horses in Pazyryk kurgan 1 had grain in their stomachs (K. JETTMAR, BMFEA 23 [1951], 173) has been shown to be false, S. I. RUDENKO, Frozen Tombs, 60. But the prized horses of the nobility in the Tarim Basin were sometimes grain fed, cf. Kharoṣṭhī Documents, no. 146. On the identification of several Chinese terms for domestic animals of the Hsiung-nu, see MAMIO EGAMI, The K'uai-t'i, the T'ao-yü and the T'an-hsi, the Strange Domestic Animals of the Hsiung-nu, MTB 13 (1951), 102, 105—108. But cf. H. G. CREEL, AHR 70.3 (1965), 657—658 on some of these identifications. Although most of the horses at Noin Ula were of the typical Mongolian breed, there were also some finer horses very similar to those from Pazyryk. S. I. RUDENKO, Hsiung-nu, 22. On the domestic animals of the Hsien-pi see the 'Wei-shu', cf. G. SCHREIBER, MS 12 (1947), 164. Horse riding does not appear in China until the late fourth and early third centuries B.C. H. E. FERNALD, Chinese Art and the Wu-sun Horse, Annual, Art and Archaeology Div., ROM (Toronto) (1959), 24; cf. M. VON DEWALL, Pferd und Wagen im Frühen China, Saarbrücker Beiträge zur Altertumskunde 1 (Bonn 1964), 181—182. Cf. also the connexion between the development of effective cavalry and the unification of much of China by the Ch'in, see JING-SHEN TAO, The Horse and the Rise of the Chin Dynasty, Papers, Michigan Acad. of Sc. Arts and Letters 53 (1968), 183—189.

[133] Stressed by J. PRŮŠEK, Chinese Statelets, 226—228. This was also realized by the historian Ssu-ma Ch'ien, see WANG GUNG-WU, Chinese Historians and the Nature of Early Chinese Foreign Relations, JOSA 3.2 (1965), 41—42. The picture of the Hsiung-nu empire presented above differs considerably from the usual historical picture of the Hsiung-nu as nomads who did not cultivate the soil, formed no fixed encampment and lived on a diet of meat and milk, so C. P. FITZGERALD, China: A Short Cultural History (London 1950), 174—175.

[134] J. PRŮŠEK, Chinese Statelets, 226—227; B. WATSON, Ssu-ma Ch'ien: Grand Historian of China (New York 1958), 10—11; O. LATTIMORE, Inner Asian Frontiers, 345.

[135] E. CHAVANNES, Les Documents Chinois Découverts par Aurel Stein dans les Sables du Turkestan Oriental (Oxford 1913), v; H. BIELENSTEIN, Emperor Kuang-wu (25—57 A.D.) and the Northern Barbarians (Canberra 1956), 4—5. The present alignment of the wall is largely from the Ming period, J. NEEDHAM, Science and Civilization in China (Cambridge 1971), 4.3.47—53. Cf. the map of the walls of the feudal states and the Great Wall in A. HERRMANN, Historical and Commercial Atlas of China, Harvard-Yenching Monograph Ser. 1 (Cambridge, Mass. 1935). See also O. LATTIMORE, Inner Asian Frontiers, 236 and IDEM, in Studies in Frontier History, 97—118. WATSON suggests that the first Han reaction to the Hsiung-nu was due to the negative type of government modelled largely upon the Taoist ideal of 'non-action', B. WATSON, Ssu-ma Ch'ien, 27.

[136] Most fully in: O. LATTIMORE, Inner Asian Frontiers, 240, 467—468, 478: "What mattered was no longer whether tribesmen or Chinese occupied a particular sector of marginal terrain adjacent to the Great Wall but whether the local 'important people' and other 'important people' near them, with whom they were in touch, were to look toward the steppe or toward China for command and confirmation of their status and role.", also 482—483; IDEM, in: Studies in Frontier History, 111—114. On the other end of the social scale cf. HS 94B. 4a: in 33 B.C. at a court debate it was noted that the northern frontier fortifications must be defended to prevent slaves from fleeing to the Hsiung-nu. See C. M. WILBUR, Slavery in China, 409, cf. also H. SERRUYS, A Note on China's Northern Frontier, MS 28 (1969), 442.

[137] The Hsiung-nu population probably did not exceed a million persons. The largest army they fielded was 400,000 cavalry in 201 B.C. SC 110, cf. WATSON, Records, 2.165, cf. O.

Maenchen-Helfen, Byzantion, 17 (1944/45), 225. It is also possible that women may have fought in the ranks along with the men, so S. I. Rudenko, Hsiung-nu, 57. The figure of 760,000 slaves proposed by Ma Ch'ang-shou who terms the Hsiung-nu empire a classic example of a „*Sklavenhaltergesellschaft*", would seem to be based upon a dogmatic social theory rather than the evidence. Ma Ch'ang-shou, LSYC (1954), 5.99—119. Compare Wilbur's estimate of c. 580,000 slaves in a Chinese population of about 21 to 59 millions, C. M. Wilbur, Slavery in China, 30, 167—174. For the destructive capabilities of mounted nomads to settled agriculture see comments of O. Lattimore, GJ 91 (1938), 15—16.

[138] For the significance of these events see O. Lattimore, Inner Asian Frontiers, 478—480; W. Eberhard, Conquerors and Rulers², 119, 122 sees the events of 201 B.C. as a conscious choice by Mo-tun not to conquer China; Ying-shih Yü, Trade and Expansion, 9—10. See also W. M. McGovern, The Early Empires, 122; H. H. Dubs, HFHD 1.116 to 118.

[139] SC 110, cf. Watson, Records, 2.165—166; Chin-shu 21.101.1a, cf. A. Fang, The Chronicle of the Three Kingdoms (Cambridge, Mass. 1965), 2.97.

[140] SC 110, cf. Watson, Records, 2.166—167.

[141] Yü seems mistakenly to think that the development of the *ho-ch'in* system was a matter of choice rather than necessity, Ying-shih Yü, Trade and Expansion, 10—11, cf. the criticism of M. Loewe, TP 2 ser. 54 (1968), 314—315.

[142] Lattimore and Serruys both stress that the northern frontier, which was viewed as an area for defence and not for economic and political expansion, was completely different from the southern frontier, where a process of slow political and economic assimilation of non-Chinese groups took place for centuries. O. Lattimore, Inner Asian Frontiers, 469 to 472; H. Serruys, MS 28 (1969), 442.

[143] See, for example, the threat of Chung-hsing Shuo, a Chinese eunuch who had thrown his lot in with the Hsiung-nu, to trample the autumn harvest of the Chinese if the 'gifts' prove to be unsatisfactory. SC 110, cf. Watson, Records, 2.162, cf. the comments of Wang Gung-wu, JOSA 3.2 (1965), 42.

[144] SC 110, cf. Watson, Records, 2.170.

[145] SC 110, cf. Watson, Records, 2.173—174; SC 109, cf. Records, 2.141; HS 4.15a, 94A. 13a—b, cf. H. H. Dubs, HFDH 1,255—256, 256, n. 1.

[146] 100,000 soldiers and 1,000 chariots were sent against the Hsiung-nu, HS 4.15a, cf. H. H. Dubs, HFHD 1.256.

[147] SC 110, cf. Watson, Records, 2.173.

[148] SC 110, cf. Watson, Records, 2.173—174; HS 4.17a—b, 94A. 13b—14a, cf. H. H. Dubs, HFHD 1.262—264.

[149] SC 110, cf. Watson, Records, 2.176; HS 5.3a, cf. H. H. Dubs, HFDH 1.310.

[150] N. L. Swann, Food and Money in Ancient China (Princeton 1950), 393 (= F&M). HS 24B.5b—6a reports that when the marquises and lords in Ch'ang-an who joined the imperial expeditionary army sought to borrow from the money-lenders for food and clothing for their soldiers, the money-lenders considered success east of the pass uncertain and therefore did not lend them any money, cf. N. L. Swann, F&M, 393 and HS 91.11a, cf. ibid. 458.

[151] SC 110, cf. Watson, Records, 2.176. Early in the second century of our era similar markets were established for the Hsien-pi who largely replaced the Hsiung-nu. HHS 80.10a—b, cf. G. Schreiber, MS 12 (1947), 174.

[152] LATTIMORE compares it to *danegeld*. O. LATTIMORE, Inner Asian Frontiers, 467; H. SERRUYS, MS 28 (1969), 443—444.

[153] SC 110, cf. WATSON, Records, 2.168.

[154] The 'five baits' policy is a proposal of the Confucian scholar Chia I (201—169 B.C.): "To give them (i. e. the Hsiung-nu) elaborate clothes and carriages in order to corrupt their eyes; to give them fine food in order to corrupt their mouth; to give them music and women in order to corrupt their ears; to provide them with lofty buildings, granaries and slaves in order to corrupt their stomach (i. e. general desire or appetite); and, as for those who come to surrender, the emperor [should] show them favor by honouring them with an imperial reception party in which the emperor should personally serve them wine and food so as to corrupt their mind. These are what may be called the five baits." Quoted in YEN SHIH-KU's commentary to HS 48.13a, cf. YING-SHIH YÜ, Trade and Expansion, 36—37. See also W. EBERHARD, Deception as a Political Tool in Ancient China, Veröffentlichungen des Museums für Völkerkunde zu Leipzig 11 (1961), 121—122.

[155] M. A. STEIN, Serindia: Detailed Report of Explorations in Central Asia and Westernmost China (Oxford 1921), 1.406. For a clear statement of STEIN's "the flag follows trade" doctrine see M. A. STEIN, Innermost Asia: Its Geography as a factor in History, GJ 65.5 (1925), 401. Cf. S. ADSHEAD, China and Central Asia, in: China and its place in the World (Auckland 1967), 14—15. For a discussion of the theory in its chronological rather than its geographic form, see M. C. WEBB, The Flag Follows Trade: An Essay on the Necessary Interaction of Military and Commercial Factors in State Formation, in: J. A. SABLOFF and C. C. LAMBERG-KARLOVSKY (eds.), Ancient Civilization and Trade (Albuquerque 1975), 179—194.

[156] A. HERRMANN, Die Alten Seidenstraßen zwischen China und Syrien (Berlin 1910), 4—5; W. H. SCHOFF, The Transcontinental Silk Trade at the Christian Era, Proc. Num. and Ant. Soc. of Philadelphia 27 (1913), 56; R. D. RIEFSTAHL, Notes on a Study of Trade Routes of Central Asia, BNBC 21.1/2 (1937), 43; N. P. CHAKRAVERTY, Spread of Indian Civilization in Chinese Turkestan, JBORS 36.3/4 (1950), 4—6; J. HARMATTA, Eine Neue Quelle zur Geschichte der Seidenstraße, JWG (1971), 2.136; HIROSHI WADA, Serinda, 15; more ambiguous is YING-SHIH YÜ, Trade and Expansion, 92—99, cf. 135—137 and M. LOEWE, Records of Han Administration (Cambridge 1971), 1.48—50. The view is rejected by C. G. SELIGMAN, The Roman Orient and the Far East, Antiquity 11 (1937), 10; S. ADSHEAD, in: China 14—16 citing HULSEWÉ in a colloquium at Harvard in 1963; C. P. FITZGERALD, China, 192—193. Cf. recently M. LOEWE, The Campaigns of Han Wu-ti, in: F. A. KIERMAN and J. K. FAIRBANK (eds.), Chinese Ways in Warfare (Cambridge, Mass. 1974), 77 who notes that while state trade on an unknown scale may have been one result of Chinese expansion, there is no reliable evidence to suggest that this was the original motive.

[157] For the relationship between Wu-ti's superstition and religious beliefs and the expeditions of exploration he sent out to the East (by sea) and West (by land) see H. MASPERO, in: Mélanges Posthumes, 3.46—48. See description of the relationship of Wu-ti's superstition and desire for immortality to such expeditions in SC 18. For example, in 105 B.C. Wu-ti went east to the sea to examine those who had been sent out to sea and the magicians he had dispatched to seek for the gods. Since these reported no success he sent them out to try again. Once more in 98 B.C. those who had been sent out to search for the immortals and the island of P'eng-lai in the sea failed completely. "Thus the emperor grew increasingly weary and disgusted with the inane tales of magicians, and yet he was bound and snared by them and could not free himself, for always he hoped that one would speak the truth." SC 18, cf. WATSON, Records, 2. 65, 67, 69.

[158] Translation and commentary of SC 123 by F. HIRTH, JAOS 37 (1917), 89—136, now superseded by WATSON, Records, 2.264—289. A departure date of 138 B.C. is suggested by F. HIRTH, ibid. 135. So also K. SHIRATORI, The Geography of the Western Region Studied

on the Basis of the Ta-ch'in Accounts, MTB 15 (1956), 152 with a departure date of 139 or 138 B.C. and a return in 126. For a later date see P. PELLIOT, Les Bronzes de la Collection Eumorfopoulos Publiés par M. W. P. Yetts (I et II), TP 2 ser. 27 (1930), 385—386 who suggests 123/22 for the return, cf. M. LOEWE, Military Operations in the Han Period (London 1961), 2 with a date of c. 125 B.C.

[159] SC 123, cf. WATSON, Records, 2.272—278.

[160] cf. H. MASPERO, in: Mélanges Posthumes, 3.46—48.

[161] Chang Ch'ien reported that while in Ta-hsia he had seen bamboo canes from Ch'iung and cloth made in the province of Shu. Since these were said to come from the Southeast he supposed that some sort of route existed linking Yunnan with Northeast India. SC 123, cf. WATSON, Records, 2.269—270. See P. PELLIOT, Deux itinéraires de Chine en Inde à la fin du VIIe siècle, BEFEO 4 (1904), 142—143; so also O. FRANKE, Geschichte, 1.22, 340, 410. Rejected by S. CAMMAN, Review of B.C. Bagchi, India and China . . ., FEQ 12 (1952), 58 (and following note) who points out the weakness of assuming the existence of such a route on the basis of Chang Ch'ien's report since bamboo grows at many points in the Himalayas and since the origin of the cloth may have been an assumption based on its similar appearance. Also W. LIEBENTHAL, The Ancient Burma Road — A Legend, JGIS 15.1 (1956), 1—15. But still accepted by YING-SHIH YÜ, Trade and Expansion, 112—114; HIROSHI WADA, Prokops Rätselwort Serinda und die Verpflanzung des Seidenbaus von China nach dem oströmischen Reich (Tokyo 1971), 8—13.

[162] W. FLIGHT, On the Chemical Composition of a Bactrian Coin, NC n. s. 8 (1868), 305—308 cites a coin of Euthydemus which contained 20% nickel and a coin of Agathocles (but no figures are given). A. CUNNINGHAM, Coins of Alexander's Successors in the East, NC n. s. 13 (1873), 188—190 adds another coin of Euthydemus, two of Agathocles and one of Pantaleon and suggests that the source of the nickel-copper alloy was China. Similar results were reported from a later analysis of coins of Euthydemus, Pantaleon and Agathocles: A. A. MOOS, The Origin of the Nickel Alloy used for Bactrian Coins (c. 200 B.C.), NC 6 ser. 10 (1950), 317—318. The presence of nickel was also cited by CHENG and SCHWITTER as proof of the existence of such a trade route, see F. C. CHENG and C. M. SCHWITTER, Nickel in Ancient Bronzes, AJA 61.4 (1957), 351—363; IDEM, Bactrian Nickel and Chinese Bamboos, AJA 66.1 (1926), 87—91; so also W. B. HENNING, BSOAS 12 (1948), 608; W. W. TARN, GBI², 87. Cf. the rebuttals of the theory by S. CAMMAN, Archaeological Evidence for Chinese Contacts with India during the Han Dynasty, Sinologica 5 (1956), 2—8; IDEM, The 'Bactrian Nickel Theory', AJA 62.4 (1958), 409—414; IDEM, On the Renewed Attempt to Revive 'The Bactrian Nickel Theory', AJA 66.1 (1962), 92—94 where he cites a letter of E. R. CALEY to the effect that analyses of Chinese white copper alloys have revealed the presence of nickel only as a trace element. Cf. also the published results of analyses of this metal (69% Cu., 27% Sn., 4% Pb.) in: A. G. BULLING and I. DREW, The Dating of Chinese Bronze Mirrors, Archives of Asian Art 25 (1971/72), 38. CHANG's description of *pai-t'ung* as an alloy of copper and nickel is not based on chemical analysis, TZO-KAO CHANG, Ts'ung tu-hsi t'ung-ch'i t'an tao wu tzu pen-i, KKHP (1958), 3.73—74. Analysis of two approximately contemporary copper coins from excavations at Rajghat and from Mathura show nickel present as an impurity of about 1%, see report of analyses in: H. C. BHARDWAJ, Chemical Composition of some Local Bronze and Cooper Coins from Northern India, in: A. K. NARAIN (ed.), Seminar Papers on the Local Coins of Northern India c. 300 B.C. to 300 A.D. (Varanasi 1968), 161—163. For presence of nickel in copper ore from Rajasthan and Bihar, see IDEM, Chemical Composition of Taxila Coins and Probable Source of their Metal, in: A. K. NARAIN (ed.), Seminar Papers, 183—184. Lumps of crude copper from Mohenjo-daro contain 0.31, 1.06 and 1.27% nickel, J. MARSHALL, Mohenjo-daro (London 1931), 484. Analyses of early Mesopotamian copper objects at a time when much of the raw material was being imported from eastern Iran or Northwest India (on Magan and Meluḫḫa in Old Babylonian texts see below p. 941, n. 1169) yields a relatively high nickel content: 2.20% from Ur and 3.34% from Kish, H. PEAKE, The Copper Mountain of Magan, Antiquity 2 (1928), 454: a

large number of samples of copper ores were analysed but the only ore yielding a high percentage of nickel came from Jabal at Maadan in Oman, ibid. 456. The source of this nickeliferous copper ore was also apparently not in Siberia and Central Asia, see analyses of Noin Ula bronzes in S. I. RUDENKO, Hsiung-nu, 52—53, and analyses of metal objects from Sosnovoi Mazy in E. N. CHERNYKH, O khimicheskom sostave metallo klada iz Sosnovoi Mazy, KSIA 108 (1966), 130—131. Further west bronze implements from Samarskogo reveal a nickel content of only 4% at the most, see V. S. BOCHKAREV, Novyi klad Prikubanskikh bronz iz Rostoskoi obl., KSIA 132 (1972), 90. Nickle is also a major constituent in several metal objects from Taxila. MARSHALL published a further coin of Euthydemus with a nickel content of 20.04% as well as an antimony rod, a bangle and a plate, containing respectively 9.02, 18.88 and 21.35% nickel. The first two are from the Bhir mound and go back to the third century B. C., see J. MARSHALL, Taxila (Cambridge 1951), 2.569, 571—572.

[163] HHS 118, cf. E. CHAVANNES, TP 2 ser. 8 (1907), 164—165, 169. F. S. DRAKE, China's North-West Passage: A Chapter in its opening, JRASNCB 66 (1935), 42—43.

[164] SC 110, cf. WATSON, Records, 2. 185 states that one major purpose of the western campaigns was "in order to drive a wedge between the Hsiung-nu and the Ch'iang barbarians and cut off the communications between them." The forces used in the campaigns of 119 to 90 B. C. involved several 100,000's of cavalry and infantry. For details of the campaigns see YONEDA KENJIRŌ, Zen Kan no Kyōdo taisaku ni kansuro ni san no mondai, Tōhōgaku 19 (1959), 28—40; cf. RBS 5 (1959), no. 106, cf. also CHUN-SHU CHANG, Military Aspects of Han Wu-Ti's Northern and Northwestern Campaigns, HJAS 26 (1966), 148—150, 167—169, stresses the mass breeding of horses and the building of a cavalry force as important factors in the success of the campaigns, see ibid, 151—166 for a list of campaigns of 129—90 B. C. The strategic need to control Kansu and the Tarim Basin was also clear to the Manchus and in the nineteenth century Chinese strategists argued for expansion towards the Northwest in the same terms as their predecessors had 2,000 years earlier. See WEN-DJANG CHU, The Moslem Rebellion in Northwestern China 1862—1878: A Study of Government Minority Policy (The Hague/Paris 1966), 5. A memorial to the emperor on July 26, 1877 from the Manchu commander in the Northwest, TSO TSUNG T'ANG, is particularly revealing. It includes the following: "This security [of Peking and the Chinese heartland] was granted by the past Emperors who accomplished the successful conquest of Sinkiang. Hence, stress on Sinkiang means an effective defence of Mongolia, and the effective defence of Mongolia means the sound security of Peking. The geographical situation in the Northwest is like an arm from shoulder to the finger-tips. When the whole arm is safe everything works out smoothly. If Sinkiang is not secure, Mongolia will be in trouble; then not only Shensi, Kansu and Shansi will often be disturbed, the people in the area of the national capital will not have a good night's sleep . . ." from TSO TSUNG T'ANG, Memorials, L. 75—77 translated in ibid., 177. A good study of Wu-ti's campaigns against the Hsiung-nu can now be found in M. LOEWE, in: F. A. KIERMAN and J. K. FAIRBANK (eds.), Chinese Ways in Warfare, 67—122, 323—334.

[165] Two great check-points or barriers (*kuan*) marked the ultimate extent of the Chinese fortifications, the Yang Barrier and the Jade (Yü-men) Barrier. M. A. STEIN, Serindia, 2.620—623 locates the Yang *kuan* at Nan-hu; ibid, 683—692, 726 locates the final position of the Yü-men *kuan* at T XIV (c. 50 miles west of T'un-huang) but suggests that in 103 B. C. the barrier and the most advanced section of the *limes* were still east of T'un-huang. See L. GILES, A Topographical Fragment from Tunhuang, BSOS 7.3 (1934), 552—553 on the basis of S. 788, a Chinese manuscript from the STEIN Collection in the British Museum places the westernmost outpost of Han China in the early period of expansion at the Nan-hu oasis. Also LAO KAN, Lun Han-tai Yü-men kuan ti ch'ien hsi wen-t'i, CHHP 2.1 (1960), 40—52 who suggests c. 102 B. C. for the date of the movement of the Yü-men Gate from east of T'un-huang to its final site west of that city. But cf. HIBINO TAKEO, Kan no seihō hatten to ryōkan kaisetsu no jiki ni tsuite, Tōhōgakuhō 27 (1957), 31—58 who argues that the Yü-men Barrier was established in 108 B. C. and never moved. He

also suggests a date of 93/92 B. C. for the bestowal of commandery status on T'un-huang, cf. RBS 3 (1957), no. 160.

[166] Portions of the T'un-huang *limes* were investigated by Stein during his expeditions to the region. See M. A. Stein, Innermost Asia: Detailed Report of Exploration in Central Asia, Kansu and Eastern Iran (Oxford 1928), 1.371—427 traces the fortifications from the oasis of An-hsi past Shih-êrh-tun, Hua-hai-tzu, the oasis of Mao-mei to Su-chou. Ibid., 2.770 to 782 where Stein notes that there are watchtowers similar in construction to those of Wu-ti along the Su-lo Ho, on the ancient route from Ying-p'an to Korla and a ruined station at Suget-bulah; Idem, Serindia, 2.567—574: ruins of *limes* by the Su-lo Ho marshes; 584—602, T'un-huang; ibid, 611—616, Han town at Nan-hu oasis; ibid, 620—654, *limes* from Nan-hu to the last towers in the direction of Lou-lan. For description of construction of the watchtowers, see ibid, 2.737—738.

[167] The layout of the *limes* on the Edsin-Gol is described by Meng-chia Ch'en, Han-chien k'ao shu, KKHP (1963), 1.77—110 who lists apart from the wall, 10 forts, 6 walled enclosures, and 156 watchtowers along a frontier of 250 kilometres. The Sino-Swedish Expedition investigated the fortifications along the Edsin-Gol. See B. Sommarström, Archaeological Research in the Edsen-Gol Region, Inner Mongolia, 2 vols. (Stockholm 1956/58). See particularly the description of the Tsondol *limes* and the rich Han finds from the fort, Mu-durbeljin, ibid., 1.37—96.

[168] The best study of the garrisons and military colonies is Ch'un-shu Chang, The Colonization of the Ho-Hsi Region in the Former Han Period: A Study of the Han Frontier System, Harvard Ph. D. thesis, unpublished (1963). This is the most thorough study in any language of the evidence contained in the Han documents from the region. Also on the organization of the new commanderies and defences see M. Loewe, Military Operations, 10—21. For the payment of taxes in grain by the military settlers, see M. Loewe, Some Notes on Han-Time Documents, TP2 ser. 50 (1963), 167—168. For the Han military agricultural colonies, *t'un-t'ien*, in the Former Han period, see Oshima Toshikazu, Ton-den to dai-den, Tōyōshi kenkyū 14 (1955), 1—22, cf. RBS 1 (1955), no. 92 and Ogata Isamu, Kaudai tondensei no ichi kōsatsu: Toku ni Batei, Shotei ki o chūschin ni, Shigaku zasshi 72 (1963), 359—388, cf. RBS 9 (1963), no. 89. The establishment of military agricultural colonies as part of a scheme to control Kansu and Sinkiang is now a traditional aspect of Chinese policy, G. Moseley, A Sino-Soviet Cultural Frontier: The Ili-Kazakh Autonomous Chou (Cambridge, Mass. 1966), 7—8 on agrarian colonization schemes of the Ch'ing and the C. P. R.; cf. also W. J. Drew, Sinkiang: The Land and the People, CAR 16.3 (1968), 209—211; on Koumintang and C. C. P. policies, M. Gillett, The National Minorities of Western China, CAR 16.1 (1968), 69—70.

[169] The best study of Ssu-ma Ch'ien is B. Watson, Ssu-ma Ch'ien: Grand Historian of China (New York, 1968).

[170] SC 30, cf. H. H. Dubs, An Ancient Chinese Stock of Gold, JEH 2 (1942), 37. For the military campaigns under Wu-ti in the Northwest see M. Loewe, Military Operations, 2—6; and above p. 707, n. 164.

[171] SC 123, cf. Watson, Records, 2.272—278.

[172] SC 123, cf. Watson, Records, 2.276—277. Herrmann's description of these embassies as „*Handelskarawanen*" is misleading. A. Herrmann, Die alten Seidenstraßen zwischen China und Syrien (Berlin 1910), 2—3.

[173] See accounts in SC 123, cf. Watson, Records, 2.276. Also Wu-ti was desperately eager to find somewhere in the West the immortality drugs which he had not been able to find in the sea to the East. For the search for these drugs, see Ying-shih Yü, Life and Immortality in the Mind of Han China, HJAS 25 (1964/65), 96—97.

[174] SC 123, cf. Watson, Records, 2.280—288. W. P. Yetts, The Horse: A Factor in Early Chinese History, ESA 9 (1934), 241n.4; A. Waley, History Today 5.6 (1955), 95—103;

S. Adshead, in China, 16—17; Ying-shin Yü, HJAS 25 (1964/65), 97—98; H. G. Creel, AHR 70.3 (1965), 657; M. von Dewall, Pferd und Wagen, 182.

[175] HS 96A.37a—b, cf. de Groot, WG C 110, where it is noted that these horses were descendents from heavenly horses. See Dubs, HFHD 2.132—135 who proposes an explanation for the "blood-sweating" phenomenon (i. e. caused by parasites). For the two breeds of horses depicted in Han reliefs see O. Maenchen-Helfen, CAJ 3 (1957), 95—97. Usually only the steppe horse and the Ferghana horse are identified in Former Han art, so W. C. White, Tomb Tile Pictures of Ancient China (Toronto 1939), 42, but cf. H. E. Fernald, Chinese Art and the Wu-sun Horse, Annual, Art and Archaeology Division, ROM. Toronto (1959), 26—30 who identifies a Wu-sun horse in Former Han art. The most beautiful representation of a flying horse (probably an allusion to the heavenly horses of Ferghana) was found in a Later Han tomb in Wu-wei, Kansu, in 1969. The bronze horse is in full gallop and has a rear hoof resting on the back of a bird in flight. See R. C. Rudolph, Two Recently Discovered Han Tombs, Archaeology, 26.2 (1973), 114—115. This horse was item no. 222 in the Chinese archaeological exhibit at the Royal Academy, London 29 September 1973 to 23 January 1974. See W. Watson, The Genius of China (London 1973), no. 222 and pp. 119—120 = The Exhibition of Archaeological Finds of the People's Republic of China (Toronto 1974), p. 21, no. 218. See on this now F. Magi, Andature di cavalli nell' arte con particolare riguardo all' ambio nell' arte cinese dei Han, RSO 49.1/2 (1975), 126—130, pls. II—III. For rock pictures of horses from Aravan in Ferghana, see A. N. Bernshtam, Istoriko-Arkheologicheskie Ocherki Tsentral'nogo Tian'Shania i Pamiro-Alaia (Moscow/Leningrad 1952), MIA 26, 222—228. For the rock drawings at Aravan and Airymach-Tau see Iu. A. Zadneprovskii, Drevnezemledel'cheskaia kul'tura Fergany, MIA 118 (Moscow/Leningrad 1962), 179—181. The importance of horses to the Han cavalry is indicated by the organization of 36 pastures in the frontier regions where three hundred thousand horses were kept. See Yü-ch'uan Wang, HJAS 12 (1949), 153—154.

[176] So A. Waley, History Today 5.6 (1955), 95—102 who argues that the function of the horses was ritual rather than practical; also Ying-shih Yü, HJAS 25 (1964/65), 97—98; H. G. Creel, AHR 70.3 (1965), 657.

[177] S. Jagchid and C. R. Bawden, Some Notes on the Horse Policy of the Yüan Dynasty, CAJ 11 (1965), 246—268; M. Rossabi, The Tea and Horse Trade with Inner Asia during the Ming, JAH 4.2 (1970), 140—163.

[178] SC 123, cf. Watson, Records, 2.276.

[179] HS 94B, cf. de Groot, HdVZ 209—217; HS 78, cf. ibid., 217—220; HS 8.19b, cf. Dubs' HFHD 2.250—251.

[180] HS 94B, cf. de Groot, HdVZ 215—217; HS 78, cf. ibid., 220; HS 8.20a—21b, cf. Dubs, HFHD 2.250—256.

[181] HS 94B.3b, cf. de Groot, HdVZ 220; HS 8.22b, cf. Dubs, HFHD 2.258—259.

[182] 94B.4a, cf. de Groot, HdVZ 220.

[183] HS 9.13a cf. Dubs, HFDH 2.335 (33 B.C.); HS 10.6a, cf. ibid. 2.386 (25 B.C.); HS 94B.7a, cf. de Groot, HdVZ 239; HS 94B.9b cf. ibid., 247 (28 B.C.); HS 94B.10a, cf. ibid., 249 (27 B.C.).

[184] A systematic record may well have begun to be kept in the Later Han period. See Wang Gungwu, 'Public' and 'Private' Overseas Trade in Chinese History, in: M. Mollat (ed.), Sociétés, 215—216 on recording of all overseas missions. Cf. A. Herrmann, Seidenstraßen, 34—36 suggests the Former Han period.

[185] HS 94B.14b—15a, cf. de Groot, HdVZ 261—262. Bielenstein has totalled up the gifts for the period 59—1 B.C. as follows: 26.44 kg. of gold, 997 suits of clothes, 85,050

rolls of various types of silk and 80,000 catties of silk floss (= 43,000 lbs.). H. BIELENSTEIN, The Restoration of the Han Dynasty (Stockholm 1967), 3.91—92.

[186] J. K. FAIRBANK and S. Y. TENG, On the Ch'ing Tributary System, HJAS 6 (1941/42), 135—246.

[187] Cf. H. SERRUY, MS 28 (1969), 443—445. For the submission of hostages by the Hsiung-nu and the states of the Tarim Basin see LIEN-SHENG YANG, Hostages in Chinese History, HJAS 15 (1952), 515—516 = IDEM, Studies in Chinese Institutional History (Cambridge, Mass. 1961), 45—46.

[188] See above p. 705, n. 154. On another occasion Chia I urged the emperor Wen to end the humiliating tribute to the Hsiung-nu and take the offensive, cf. YING-SHIH YÜ, Trade and Expansion, 11—12. At the Hsiung-nu court Chung-hsing Shuo is made by Ssu-ma Ch'ien to point out to the *Shan-yü* that the strength of the Hsiung-nu lies not in their population but in the fact that their food and clothing differed from that of the Chinese. Thus even if the Han send less than one fifth of their goods, they will eventually succeed in winning over the whole population of the Hsiung-nu, SC 110, cf. WATSON, Records, 2.170. There is no reason to believe that the dialogue actually took place but it may reflect Ssu-ma Ch'ien's thoughts on the subject, cf. O. LATTIMORE, Inner Asian Frontiers, 487, and W. EBERHARD, Conquerors and Rulers, 74—75.

[189] H. BIELENSTEIN, Restoration of the Han Dynasty: with Prolegomena on the Historiography of the Hou Han Shu BMFEA 26 (1954), 82—92.

[190] Some sinologists have questioned the trustworthiness of the Hou Han-shu account of Wang Mang, so H. BIELENSTEIN, Emperor Kuang-wu (A.D. 25—57) and the Northern Barbarians (Canberra 1956), 8—10; IDEM, Restoration, 3.94—102 with a favourable assessment of the emperor's policy toward the Hsiung-nu. Also on bias see C. S. GARDNER, Chinese Traditional Historiography² (Cambridge, Mass. 1961), 66. Others regard Pan Ku's treatment of Wang Mang as fair, so H. H. DUBS, The Reliability of Chinese Histories, FEQ 6 (1946), 38—41; cf. M. LOEWE, Military Operations, 7, who refers to Wang Mang's "singularly inept diplomacy".

[191] For the economic policies of Wang Mang see H. H. DUBS, Wang Mang and his Economic Reforms, TP 2 ser. 25 (1940), 219—265; IDEM, JEH 2 (1942), 38—39. For the revolt of the Red Eyebrows and other peasant uprisings see H. BIELENSTEIN, The Fall of a Chinese Dynasty, Inaug. lecture, Canberra University (1953), 3—9; IDEM, Restoration, 1.85—162.

[192] Thirty dated documents from the reign of Wang Mang have been found along the Edsin Gol and forty-two others may belong to the same period, see MORI SHIKAZO, Kyōen shutsudo no Ō Mō-kan, Tōhō gakuhō 33 (1963), 257—266, cf. RBS 9 (1963), no. 91; same observations about continued Chinese influence at T'un-huang under Wang Mang in W. EBERHARD, Notes on the Population of the Tun-huang Area, Sinologica 4.2 (1956), 76. So already E. CHAVANNES, Documents chinois, p. vii pointing out that the documents suggest that the literary tradition about Wang Mang's abandonment of the Northwest was in need of revision. For the abolition of several commanderies in the Northwest see H. BIELENSTEIN, Restoration, 3.112—113, 118.

[193] Cf. H. BIELENSTEIN, Restoration, 3.97—98, 102—116; IDEM, Kuang-wu, 10—15.

[194] HHS 48.8b, cf. YING-SHIH YÜ, Trade and Expansion, 13; HHS 118, cf. CHAVANNES, TP 2 ser. 8 (1907), 155—156.

[195] STEIN describes a wall which stretched from the Yü-men to the Yang *kuan*, Serindia, 2.693—695.

[196] HHS 118, cf. E. CHAVANNES, TP 2 ser. 8 (1907), 156, 171—172, 196—204. In general H. BIELENSTEIN, Restoration, 3.131—134 and W. SAMOLIN, The Turkisation of the Tarim Basin up to the Qara-Qytay: Preliminary Survey of the Problems Involved (Ph. D. diss., Columbia 1953), 49—54.

[197] HHS 118 cf. E. Chavannes, TP 2 ser. 8 (1907), 156.

[198] HHS 1B.19a; 119.4a—4b.

[199] HHS 119.2b—3a.

[200] Ying-shin Yü, Trade and Expansion, 60—64; also H. Bielenstein, Restoration, 3.129 for the period A.D. 51—57.

[201] HHS 118, cf. E. Chavannes, TP 2 ser. 8 (1907), 156; HHS 77, cf. E. Chavannes, Trois généraux chinois de la dynastie des Han orientaux, TP 2 ser. 7 (1906), 218. Also the biography of Keng Ping who led the attack on Turfan in A.D. 74 in HHS 49.5a, cf. E. Chavannes, TP 2 ser. 8 (1907), 222. The Hami and Barköl oases are of great strategic importance. The northern slopes of the Tien Shan range around Hami have a considerably moister climate than the desert to the north and hence the lush grazing lands here have always been the favourite target of nomads coming from the north. See M. A. Stein, Innermost Asia: Its Geography as a Factor in History, GJ 65.5 (1925), 385—387, 391. As Stein points out, from Hami nomad bands could levy tribute on all the oases of the Tarim Basin. See also Idem, Serindia, 3.1147—1149. The same point is made in a memorial of Tso Tsung-T'ang, who in 1869 was charged with the reconquest of Sinkiang for the Manchu: "I have observed that the two routes of T'ien shan, the northern and the southern, contain what they used to call 'eight rich cities' and 'eight poor cities' ... From the strategic point of view, however, the eight northern cities dominate larger areas than the eight southern cities. The northern area can control the southern area, but this southern area cannot control the northern area ..." Memorial XLVI. 32—38, cf. translation in: Wen-djang Chu, The Moslem Rebellion, 174. Hami was also at the head of a route along which it was possible to penetrate into China proper without crossing the desolate Gobi, see F. S. Drake, JRASNCB 66 (1935), 42—44.

[202] HHS 118, cf. Chavannes, TP 2 ser. 8 (1907), 156—157. Cf. Pan Ch'ao's request for reinforcements in A.D. 78 in which he emphasizes that control of the Tarim Basin cut off the right arm of the Hsiung-nu, HHS 77, cf. Chavannes, TP 2 ser. 7 (1906), 225.

[203] HHS 118, cf. Chavannes, TP 2 ser. 8 (1907), 157—158; also the biography of Keng Kong which deals in detail with the Hsiung-nu counterattack in 75/76, HHS 49.6a—8b, cf. idem, TP 2 ser. 8 (1907), 227—232.

[204] HHS 118, cf. E. Chavannes, TP 2 ser. 8 (1907), 158—159. For biography of Pan Ch'ao in HHS 77 see translation of E. Chavannes, TP 2 ser. 7 (1906), 216—245. For the career of Pan Ch'ao see W. Samolin, The Turkisation of the Tarim Basin, 61—76 and L. S. Vasil'ev, Ban' Chao v Zapadnom Krae, VDI (1955), 1.108—125.

[205] HHS 77, cf. E. Chavannes, TP 2 ser. 7 (1906), 218—239. On the policy of using "barbarians to fight barbarians" see Pan Ch'ao's letter to the emperor in A.D. 78, ibid., 226. F. S. Drake, China's North-West Passage: The Struggle for the Tarim Basin in the Later Han Period, JRASNCB 67 (1936), 151—154; K. Shiratori, A Study on T'iao-chih, MTB 15 (1956), 22—23.

[206] HHS 118, cf. E. Chavannes, TP 2 ser. 8 (1907), 159, 177—178, 217. See F. Hirth, China and the Roman Orient (Shanghai/Hong Kong 1885), 149—150; K. Shiratori, MTB 15 (1956), 1—23; Ying-shih Yü, Trade and Expansion, 156—157, cf. C. P. Fitzgerald, China, 197—198 who states that Kan Ying reached the Black Sea instead of the Persian Gulf (the details of identifications accepted by Fitzgerald are based on an unpublished paper by Yang Hsien-yi and are, if Fitzgerald correctly portrays them, totally in error).

[207] HHS 77, cf. E. Chavannes, TP 2 ser. 7 (1906), 223—224 on Pan Ch'ao's recall.

[208] HHS 77, cf. E. Chavannes, TP 2 ser. 7 (1906), 244—245; biography of Liang K'in in HHS 77, cf. ibid., 256—261; HHS 118, cf. Idem, TP 2 ser. 8 (1907), 160—163.

[209] See biography of Pan Yung in HHS 77, cf. E. Chavannes, TP 2 ser. 7 (1906), 245—255; also HHS 118, cf. Idem, TP 2 ser. 8 (1907), 167—168. The campaign again began with an effort to gain control of Hami by the establishment there of a military colony in A. D. 119, HHS 77, cf. E. Chavannes, TP 2 ser. 7 (1906), 246. The details of the court conference which preceded the campaign have survived. Pan Yung argued that Chinese control of the Western Regions (the Tarim Basin states) would weaken the Hsiung-nu and secure the frontier. The opposition noted that the area had no economic value, was expensive to control and the ambassadors from the West had an insatiable appetite for Chinese presents, see HHS 77, cf. E. Chavannes, TP 2 ser. 7 (1906), 248—251; also HHS 118, cf. Idem, TP 2 ser. 8 (1907), 163—166 where depriving the Hsiung-nu of the resources of the Western Regions is compared to the cutting off of their right arm. For the importance of the court conference (*T'ing-i*) in the formulation of imperial policy, see Yü-ch'uan Wang, An Outline of the Central Government of the Former Han Dynasty, HJAS 12 (1949), 145—146, 173—178.

[210] In general see HHS 118, cf. E. Chavannes, TP 2 ser. 8 (1907), 196—234. But not all military campaigns are recorded in the dynastic history. An inscription on stone records a victorious campaign of P'ei Ch'en against Hou-yen, the *Shan-yü* of the Hsiung-nu, in A. D. 137 which is not mentioned in the literary sources; see E. Chavannes, Dix inscriptions chinoises de l'Asie Centrale d'après les estampages de M. Ch.-E. Bonin (Paris 1902), 17—24, no. 1.

[211] HHS 118, cf. E. Chavannes, TP 2 ser. 8 (1907), 206—207. The internal troubles at Kachgar began in 168. The abortive Chinese expedition against the city took place in 170.

[212] For the loss of this region see L. Giles, A Chinese Geographical Text of the Ninth Century, BSOS 6.4 (1932), 832—833; Mau-tsai Liu, Kutcha, 59—60. The last dated documents from the *limes* come from an earlier period. Among the Later Han documents in Chavannes, Documents Chinois, p. vii, the latest comes from A. D. 137. The latest document from the Edsin-Gol *limes* comes from A. D. 98, see M. Loewe, Records of Han Administration (Cambridge 1967), 1.4.

[213] See in general E. Balazs, La crise sociale et la philosophie politique à la fin des Han, TP 2 ser. 34 (1949/50), 81—131 and especially on the Yellow Turban rebellion, P. Michaud, The Yellow Turbans, MS 17 (1958), 47—125. In the Southwest also the imperial government lost control of Szechwan which was divided between warring factions by A. D. 190, see Kano Naosada, Shokkankoku zenshi, Tōhōgaku 16 (1958), 19—34, cf. RBS 4 (1958), no. 118.

[214] For rebellion of Little Yüeh-chih mercenaries beginning in A. D. 184, see G. Haloun, Zur Üe-Tsï-Frage, ZDMG 91 (1937), 269—270; Idem, The Liang-Chou Rebellion, 184—221 A. D., AM n. s. 1 (1949/50), 119—130.

[215] e. g. SKC VIII. Wei 18.20a—21a, cf. Fang, Chronicle of the Three Kingdoms, 6—7, 27 mentions the rebellion in Kansu of Huang Hua and Chang-chin who laid siege to T'unhuang; SKC I. Wei 2.17b reports the arrival in A. D. 222 of ambassadors from Khotan, Shan-shan and Kucha, cf. Fang, ibid., 98; SKC XI. Wei 27.2a mentions that the Western Regions sent tribute to China.

[216] See M. Loewe, Chinese Relations with Central Asia, 260—290, BSOAS 32.1 (1969), 96—98.

[217] For Chin texts on wood and paper see E. Chavannes, Documents chinois, nos. 721—950. The earliest (no. 738) comes from A. D. 263 and the latest from 330 (no. 886). Military colonies were again established, see ibid., nos. 753, 760—761, 774, 882. Also H. Maspero, Les documents chinois de la troisième expédition de Sir Aurel Stein en Asie Centrale, (London 1953), 52—60. The dated wooden documents come from A. D. 263—270 and the paper documents from 312—330. Another document of the late Chin period was published by E. Chavannes in: M. A. Stein, Serindia, 3.1329—1330 no. 1; also Chinese documents

of the Chin period from the Niya River site, E. CHAVANNES in: M. A. STEIN, Ancient Khotan, 1.537—540. It is clear from these documents that in the mid-third century a Chinese civil and military administration had again been installed in at least the western part of the Tarim Basin complete with departments, commandaries, garrisons and military colonies. See especially the letter of Li Po to a king of the Western Regions in M. A. STEIN, Serindia, 1329—1330 no. 1 and N.XV.93 which lists various Chinese officials vested with the government of Shan-shan, Karashahr, Kucha and Kashgar, M. A. STEIN, Ancient Khotan, 1.537. For the Kharoṣṭhī documents from Niya and Lou-lan see below p. 789, n. 622. It is clear from these that the Chinese permitted the indigenous administrations to continue undisturbed.

[218] Among the Chinese documents found in the excavations at the small fort at site L. A. near Lou-lan by STEIN, the latest bore a date equivalent to A.D. 330. This document is dated in the eighteenth year of the *nien-hao* Chien-hsing which began in 313 and ended in 316. CHAVANNES and STEIN concluded from this use of an outdated *nien-hao* that the important outpost at Lou-lan had for a number of years been cut off from official intercourse with the central government in China. M. A. STEIN, Serindia, 1.408. The use of outdated *nien-haos* occurs frequently in the Chinese documents from the Tarim Basin (see other examples listed below p. 718, n. 250), but the explanation in this instance must face a major objection. The 'Chin-shu' 86.7b mentions a certain Li Po who is *Ch'ang-shih* of the Western Regions. A draft letter of this official to one of the kings of the Tarim Basin mentions that its author, Li Po, has just recently received a new imperial appointment. The letter was found by a Japanese traveller at Lou-lan and published by E. CHAVANNES in M. A. STEIN, Serindia, 1329—1330 no. 1. Perhaps more puzzling still is the excavation from Lou-lan of a document which is correctly dated to the fourth year of the *nien-hao* Yung-kia, i. e. A.D. 330, see A. CONRADY, Die Chinesischen Handschriften und sonstigen Kleinfunde Sven Hedins in Lou-lan (Stockholm 1920), no. 1.20; cf. M. LOEWE, BSOAS 32.1 (1969), 102—103 who points out that the pattern of dated documents may be the result of the continued survival of Chinese outposts more or less intimately connected with China proper or alternatively the dates may be simple archaeological accident.

[219] For silk from the T'un-huang *limes* see M. A. STEIN, Serindia, 2.701, T XV.a.i.3 = CHAVANNES, Documents chinois, no. 539: two strips of cream coloured undyed silk, one with an inscription (see below p. 724, n. 296); ibid., 701—703, T. XV.a.iii.57: 2 strips of fine undyed silk, one with a Brāhmī inscription (see below p. 791, n. 629), ibid., 2.768, T. III.i.001.b: fragments of fine plain silk; T. IV.b.002: 10 fragments of plain buff silk, one fragment dark brown silk and one green and dark red; ibid., 2.777, T. XII.a.ii.20: fine plain silk; T. XII.a.ii.003: silk fragments in red, grey, pink and blue; ibid., 2.778, T. XIV.i.005: fine dark blue silk embroidery; T. XIV.ii.004: a fragment of plain brown silk; ibid., 2. 779, T. XIV.v.0011: 3 fragments of silk, 2 of fine damask; ibid., 2.780, T. XIV.vii.007: 2 fragments of yellow silk and one red; T. XIV.a.i.002: buff silk fragment; ibid., 2.781, T. XV.0011: strip of red silk; T.XV.a.002.a: 2 pieces of yellow on blue figured silk; T. XV.a.003: 18 pieces of silk; T. XV.a.i.3: 2 pieces of fawn coloured silk; ibid., 2.783, T. XV.a.iii.0010.a: blue and buff silk fragment; T. XV.a.iii.b—d: 5 pieces of silk; T. XV.a.v.003: 7 pieces of silk in red, blue and buff; T. XVI.001: pieces of blue and buff silk and a handful of raw silk; ibid., 2. 784, T. XVIII.002: fragment of buff silk (from the ruined magazine designated T. XVIII); ibid., 2. 784, T. XIX.002: 4 pieces of silk. These are only examples. STEIN lists 6 other inventory numbers, each representing one or more (up to 6) pieces of silk, ibid., 2.785—788; also M. A. STEIN, Innermost Asia, 1.416, T. XXII.d.i.04: a handful of silk waste; T. XXII.d.i.05—7: 3 fragments of plain silk; T. XXII.f.04: pieces of fine plain silk; ibid., 1. 417, T. XXIII.c.015: 2 fragments of plain silk, one crimson, one green; T. XXIII.010: small silk rags in crimson, blue, brown, buff and yellow; ibid., 2.420,T. XLI.f.015: fragment of buff silk; ibid., 2.427, T. XLIV.d.01: 3 fragments of fine dark grey silk. Cf. M. A. STEIN, Serindia, 2.767, T.0014: hemp or cotton fragment; ibid., 2.785, T. XXII.c.009: two fragments of cotton (? not analysed); ibid., 2.786, T. XXIII.a.002: fragment of coarse cotton (analysed); IDEM, Innermost Asia, 2.425, T. XLIII.f.013—14: 2 fragments of a woollen (?) fabric. For silk from the Edsin-

Gol *limes* see V. Sylwan, Investigation of Silk from Edsen-gol and Lop-nor, Sino-Swedish Expedition Publication 32, VII Archaeology, 6 (Stockholm 1949), 21—34, 97 where a representative selection of materials is listed and Sylwan notes that she examined 630—640 pieces of silk from the Edsin-Gol sites. Other fabrics are virtually non-existent.

[220] For silk found by Sven Hedin at Lou-lan see A. Conrady, Die Chinesischen Handschriften und sonstigen Kleinfunde, 176, Abt. 3, Taf. VIII. nos. 1—5: pieces of silk in yellow, green and dark blue; M. A. Stein, Ancient Khotan, 1. 373, 410, N. XV. 011: pieces of delicate plain silk (from Niya); Idem, Serindia, 1.750, N. XIV.iii.001: 3 fragments of silk, in pale green, pink and dark blue; N. XIV.iii.006.a: silk thread; N. XIV.iii.006.f: fragments of silk in green, buff and blue (all from Niya); E. Fort. 0015: 5 fragments of silk, 3 buff and 2 blue; E. Fort. 0018: bundle of silk rags (all from Endere); ibid., 1.383, L. A. VI.ii.0235: strip of fine undyed silk; ibid., 1.384, L. A. VI.ii.0045b, pl. CXI: very fine figured silk; ibid., 1.432, L. A. I.002: roll of yellow silk; ibid., 1.434, L. A. II.ii.001.a—b: 2 fragments of silk, one white, one green; ibid., 1.436, L. A. VI.ii.0235: strip of fine silk; ibid., 1.438, L. A. VI.ii.0028: fragment of brownish-yellow silk. Ibid., 1.440, L. A. VIII—IX.0022: 3 fragments of silk in red, peach and blue; ibid., 1.444; L. B. III.004: silk fragments (all from Lou-lan and vicinity); ibid., 1.542, M. III.0015: piece of striped silk with Kharoṣṭhī inscription; ibid., 1.545, M. III.0064: 4 strips of red silk (all from shrines at Miran); ibid., 3.1243, Ka. 1.0014: 3 fragments of silk (Kara-dong); ibid., 3.1257, F. II.i.001: scraps of plain silk in purple and green (Farhad-Beg-Yailaki); Idem, Innermost Asia, 1.198, L. L. 02: fragment of printed silk; ibid., 1.201, L. M. I.i.06: fragment of plain white silk; L. M. I.i.08: fragment of printed silk; L. M. I.i.09: fragment of printed silk; L. M. I.i.010: fragment of plain white silk; L. M. I.i.012: silk waste; ibid., 1.202, L. M. 014—018: fragments of a silk garment; L. M. I. 026: strip of figured silk; also silk pieces and fragments listed under 8 other inventory numbers, ibid., 1.203—222. The silk finds from the burial ground at Lou-lan were particularly rich and silk fragments exceeded in number the remains of woollen und other textiles, ibid., 1.226—257; e. g. L. C. 01: fragments of figured silk lined with plain silk; L. C. 02: tattered costume with green lining; L. C. 03: fragment of figured silk; also pieces and fragments listed under 19 other inventory numbers; sites along the route from Lou-lan to Altmish-Bulak yielded silk under 6 inventory numbers, ibid., 1.280. Silk has also been excavated from the ancient cemetery at Astana near Turfan, but this site is largely of T'ang date, ibid., 2.644, 672—673; ibid., 2.784—785, Y. I.05: fragments of silk; Y. VI.02: fine buff silk; Y. VI.08: fragment of fine buff silk (from watch-stations on the road from Ying-p'an to Korla). For other silk finds from sites near Lou-lan see F. Bergman, Archaeological Researches, 56—57, 103, 117 (mostly of the post-Han period); 128, 130—134, 141 (probably of Han date); 226 (from graves near Miran). In total, well over one hundred items of silk were found primarily in graves of Chinese settlers or of the indigenous population. These finds are studied in detail V. Sylwan, Investigation of Silk, 35—73, 100—102. For silk finds from the Han forts and watchtowers in the delta of the Ithen-Gol, see B. Sommarstrom, Archaeological Researches, 1.39, A. 3.20.1—5: fragments of coloured silk; 1.63, A. 8.I.478.1—15: fragments of silk and silk padding; and 1.94, A. 10.I.96: fragment of a silk garment with padding and lining of silk.

[221] Ssu-ma Ch'ien notes that "the Hsiung-nu had always had a liking for Han silks and food stuffs." SC 110, cf. Watson, Records, 2.170. For Chinese lacquer objects from Noin Ula see C. Trever, Excavations in Northern Mongolia (Leningrad 1932), 14—15, pl. 29.2: inscribed lacquered bowl manufactured in 2 B.C.; ibid., 72: tumulus no. 23 contained 4 lacquered bowls; also S. Umehara, Studies of Noin-Ula Finds in Northern Mongolia (Tokyo 1960), pp. xii—xiii (English text), including lacquered plates, cups, circular boxes and a zoomorphic vessel. See fig. 15, pls. LIX. LX: lacquered cup from tumulus 6 of 2 B.C.; fig. 17. pl. LXV.1: lacquered zoomorphic vessel; fig. 18: lacquer box of hemp fibre; fig. 19, pl. LXIV: lacquer box inlaid with gold foil; pl. LXI: lacquered wooden cup dated 2 B.C. from tumulus 23; pl. LXV.2: fragments of a lacquered case from tumulus 1. More recently again E. I. Lubo-Lesnichenko, Kitaiiokie cakovye izdeliia iz Noin-Uly, Trudy Gosusarastvenogo Ermitaza 10 (1969), 267—277. For silk from Noin Ula see

C. TREVER, op. cit., 36—73 (details below p. 716, n. 234). Silk and lacquer are the major Chinese goods from Noin Ula, see list in S. I. RUDENKO, Hsiung-nu, 108—114.
The 'Wei-shu' reported that the Wu-huan vassals of the Hsiung-nu relied on China for rice and knew how to make liquor from this, cf. G. SCHREIBER, MS 12 (1947), 153. This is also archaeologically attested. For chopsticks and large pottery vessels for making rice wine found at Noin Ula, Ivolginsk and Sudzhinsk, see S. I. RUDENKO, op. cit., 29, 33. Also large clay urns, usually indicative of a more settled life, were found at Noin Ula, see C. TREVER, op. cit., 50, 62, 69, 72, 74. For finds of Chinese umbrellas at Noin Ula see S. I. RUDENKO, op. cit., 41. For a Han bronze mirror from tumulus 25 at Noin Ula see UMEHARA, op. cit., pl. LXXI.2. In the excavations of one of the tombs at Kenkol in 1939 two of the mummies were found to be dressed in silks of the Han period, see A. N. BERNSHTAM, Arkheologicheskie issledovaniia o doline iz Talas, KSIIMK 4 (1940), 45—46. For finds of Chinese material at other Hsiung-nu sites, see below, p. 716, n. 235.
YÜ perhaps overestimates the influence of Chinese material culture on the Hsiung-nu. YING-SHIH YÜ, Trade and Expansion, 209 cf. comments of H. BIELENSTEIN, Emperor Kuang-wu, 6 and D. SINOR, Oriens Extremus, 19.1/2 (1972), 174.

[222] Cf. YÜ, who stresses the importance of frontier trade in the late Warring States period. YING-SHIH YÜ, Trade and Expansion, 4—8. Also TREVER's conclusion that all the Chinese material at Noin Ula is evidence of commerce, should be dimissed, see C. TREVER, Excavations, 19.

[223] EBERHARD notes that in theory nomadic federations, as their success and power grows, become unwilling to pay for goods in frontier markets and resort increasingly to raiding. W. EBERHARD, Conquerors and Rulers, 75. Also on the interchangeability of raiding and trading, see O. LATTIMORE, Inner Asian Frontiers, xlvii.

[224] The coup of Lo of Wu-chih was an exceptional occurrence, see above p. 694, n. 86; cf. H. SERRUYS, MS 28 (1969), 449. Most Chinese were in fact unwilling to remain near the frontier because it was both unprofitable and dangerous, so HS 49.6a, cf. C. M. WILBUR, Slavery, 283—284. Ssu-ma Ch'ien devoted chapter 129 of the 'Shih-chi' to rich traders in Former Han times, but mentions only one man with any dealings with Central Asia, cf. S. ADSHEAD, in China, 15. Cf. WANG GUNG-WU in: M. MOLLAT (ed.), Sociétés, 215—217 who argues that private overseas trade was more important than 'public' tributary trade, but notes that the evidence for this conclusion comes only from the late T'ang period and later.

[225] The quantities of silk are listed above p. 709, n. 185.

[226] The 'Wei-shu' states that after the defeat in 210 B.C. by Mo-tun the Wu-huan became vassals of the Hsiung-nu. Each year they sent cattle, horses and sheep to the Hsiung-nu as tribute. If they failed to send these, the Hsiung-nu came and took the Wu-huan women and children; 'Wei-shu', cf. G. SCHREIBER, MS 12 (1947), 148, 156.

[227] At Kucha the known administrative and military titles recall the organization and nomenclature of the Hsiung-nu. This reflects the long period that the oasis was in their hands. See MAU-TSAI LIU, Kutscha, 14. The Hsiung-nu also maintained an official analogous to the Chinese *Tu-hu* (Protector General of the Western Regions) in the Tarim Basin and part of his function no doubt was to superintend the collection of tribute. The office is only attested for 60 B.C. the year in which it was abolished, see MAU-TSAI LIU, ibid., 74.

[228] As is asserted by A. HERRMANN, Lou-Lan, 34; C. TREVER, Excavations, 19—22; R. D. RIEFSTAHL, BNBC 21.1/2 (1937), 10. The importance of the silk road to the nomads is stressed by W. EBERHARD, Conquerors and Rulers, 87—88. His conclusions are based on his general social theory of the importance of trade to nomad societies and not on any evidence for the Hsiung-nu or Hsien-pi. EBERHARD's conclusions are primarily valid for the Uighur city-states of a much later period. See A. VON GABAIN, Steppe und Stadt im Leben der ältesten Türken, Der Islam 29 (1949), 30—62; also W. EBERHARD, Das Toba-Reich, 164, 181 deals only with the efforts of the largely settled and sinicized T'o-pa kingdom to control the trade of Kansu. What has been said above in this section should

make it clear that I am in agreement with little in the book of F. J. TEGGART, Rome and China (Berkeley 1939).

[229] It was at first thought that all of the woollens and some of the carpets from Noin Ula came from Syrian workshops or the Greek kingdom in Bactria. W. P. YETTS, Discoveries of the Kozlov Expedition, BurlMag (1926), 175: G. BOROVKA, Wanderung eines archaisch-griechischen Motives über Skythien und Bactrien nach Alt-China, in: Fünfundzwanzig Jahre Römisch-Germanische Kommission (Berlin/Leipzig 1930), 52—81; M. ROSTOVTZEFF, Animal Style, 84—85; IDEM, Dura and the Problem of Parthian Art, YCS 5 (1935), 220—221 n. 78 (suggests the Noin Ula woollens originated in Syria); R. HENNIG, Herodots Handelsweg zu den sibirischen Issedonen, Klio 28 (1935), 247; cf. E. D. PHILLIPS, Artibus Asiae 18.2 (1955), 175 who refers to "Pontic woollen embroidery"; so first G. BOROVKA, Die Funde der Expedition Koslow in der Mongolei 1924/25, JDAI 41 (1926), 353—358; see also S. LIEBERMAN, Contact between Rome and China (unpublished Ph. D. diss., Columbia 1953), 208—209 who cites these textiles as proof of the wide expanse of Graeco-Roman trade. SALMONY showed that two of these carpets bearing a hanging-tiger design must be Chinese both on the basis of design and the type of stitch used. A. SALMONY, The Archaeological Background of Textile Production in Soviet Russian Territory, BNBC 26.2 (1942), 7, 9—10. SALMONY does, however, believe that other wool fabrics at Noin Ula were from Syrian workshops, BNBC 26.2 (1952), 10 n. 18. BARNETT suggested that the woollens in question came to Siberia with the expedition of Euthydemus from Bactria, R. D. BARNETT, Iranica Antiqua 8 (1968), 51. No such expedition took place (see above p. 699, n. 110). TREVER argues that none of the textiles from Noin Ula can be traced further west than Parthian Iran. C. TREVER, Excavations, 13. Chemical analysis has revealed that some of the wool used comes from sheep similar to those found in the Sudan today. No historical conclusion can be based on this since several explanations are possible, see A. A. VOSKRESENSKY and N. P. TIKHONOV (eds.), Technical Study of Textiles from the Burial Mounds of Noin Ula, BNBC 20,1/2 (1936), 44—46. For technical analysis of Noin Ula silks and woollens see ibid., 3—73. The Lop-nor wool finds of comparable date also reveal finer wool than that yielded by the present local sheep. The articles involved are, however, not imported. F. BERGMAN, Archaeological Researches, 239, an analysis of no. 5.148 compared with modern sheep from Kucha.

Some of the silks from Noin Ula also are thought to bear Iranian designs, so F. BERGMAN, op cit., 81 and W. EBERHARD, JAS 27.3 (1968), 638. These may be the products of craftsmen from Central Asia working at the Hsiung-nu court with imported Chinese silk, cf. the comments of S. I. RUDENKO, Hsiung-nu, 65 and V. SYLWAN, Investigation of Silk, 120. See P. ACKERMAN, Textiles through the Sasanian Period, in: SPA 2.690—692 who points out that all of the Graeco-Iranian traits found in Parthian textiles could equally well be expected in the work of other neighbouring countries including Syria and Central Asia.

[230] So M. LOEWE, Review of Yü Ying-shih, Trade and Expansion in Han China, ..., TP 54 (1968), 316.

[231] SC 110, cf. WATSON, Records, 2.170.

[232] On the unreliable nature of Ssu-ma Ch'ien's sources for the Hsiung-nu see O. MAENCHEN-HELFEN, CAJ 6.4 (1961), 252. For the bureaucratic nature of the Han annals see H. H. DUBS, FEQ 6 (1946), 31—32.

[233] See above p. 694, n. 82.

[234] C. TREVER, Excavations, 11, 55—73, pls. 20.1—2; 22, 23.1—4 and 33.1. S. I. RUDENKO, Hsiung-nu, 36—39. For publication of the Noin Ula silks now in the Hermitage Museum see E. I. LUBO-LESNICHENKO, Drevnie Kitaiskie shelkovye tkhani i vyshivki, 8—9; K. RIBOUD, Les soieries Han: Aspects nouveaux dans l'étude des soieries de l'Asie Centrale, Arts Asiatiques 17 (1968), 96—98; G. VIAL, «Les soieries Han»: Analyse sur un spécimen de Noin Oula, ibid., 117—135.

The traditional Chinese stereotyped picture of the Hsiung-nu made them wear robes of felt, HS 62, cf. B. WATSON, Ssu-ma Ch'ien, 61. See also above p. 710, n. 188. On Chinese stereotypes of nomads see O. LATTIMORE, Inner Asian Frontiers, 448; W. EBERHARD, JAS 27.3 (1968), 637.

[235] Silk was used for shrouds and face-coverings for the dead at Oglakty, A. M. TALLGREN, ESA 11 (1937), 73—76, 78—80. The cemetery dates to c. 100 B. C.—A. D. 100, ibid., 88. For earlier discussion of this site see S. V. KISELEV, Drevniaia Istoriia^2, 220—225; also L. R. KYZLASOV, Tastykskaya epokha (Moscow 1960), 100—114. For the silk finds of the 1969 excavations by Kyzlasov see K. RIBOUD and E. LUBO-LESNICHENKO, Nouvelles découvertes soviétiques à Oglakty et leur analogie avec les soies façonnées polychromes de Leou-Lan Dynastie Han, Arts Asiatiques 28 (1973), 130—140, 142—143; pls. 3. A—B, 4. A—B, 5 A, 6. A—B.

[236] G. P. SOSNOVSKII, Raskopki Il'movoi Padi, SA 8 (1945), 51—67, esp. 61—62 fig. 12; V. N. KONOV, Tekhnologicheskaia kharakteristika Tkanei iz mogil Il'movai Padi, SA 8 (1946), 69—72.

[237] Edsin-Gol: see V. SYLWAN, Investigation of Silk, 96—97, 100—101; T'un-huang: see F. H. ANDREWS, Ancient Chinese Figured Silks Excavated by Sir Aurel Stein, BurlMag 37 (1920), 6—10, figs. 1—5; 71—77, figs. 6—9; 147—152, figs. 11—13, 15. See also the examples listed above p. 713, n. 219. For studies of the weaving techniques of the silks from the *limes* and the Tarim Basin found by STEIN see L. M. O'NEALE and D. F. DURRELL, An Analysis of the Central Asian Silks Excavated by Sir Aurel Stein, Southwestern Journal of Anthropology 1 (1945), 392—439, who deal in detail with the finds from Lou-lan, Astana, Kara-khoja, T'un-huang and Ch'ien-fo-tang. Also on the Lou-lan silks see L. M. O'NEALE, A Survey of the Woollen Textiles in Sir Aurel Stein's Collections, American Anthropologist n. s. 38 (1936), 421—423.

[238] E. g. a Han document listing the possessions of a soldier mentions a suit of clothes in white silk, see E. CHAVANNES, Documents chinois, no. 72. A similar list of clothing belonging to a farming soldier of the Han period includes a pair of silk trousers. See Chü-yen Han-chien chia pien (Peking 1959), no. 1477, cf. translation in: CHUN-SHU CHANG, Colonization of the Ho-Hsi Region, 284.

[239] For examples of silk from Tarim Basin sites see above p. 714, n. 220. For references to silk in the Kharoṣṭhī documents from Niya and Lou-lan see below p. 791, n. 627. Silk could even be woven into shoes and slippers along with vegetable fibres. For example, grave 35 in the Lop-nor yielded such shoes, V. SYLWAN, Investigation of Silk, 41, 139.

[240] So W. EBERHARD, Die Beziehungen der Staaten der To-pa und der Sha-t'o zum Ausland, Ankara Üniversitesi Yilligi 2 (1948), 144, 178. It is frequently difficult to distinguish private from state trade, since Chinese histories usually conceived of foreign countries in terms of their rulers, see WANG GUNG-WU, JOSA 3.2 (1965), 40.

[241] For the horse trade of the T'ang and later periods see above p. 709, n. 177. By this time one may use the term „*Staatskapitalismus*“ to describe the active commerce between China and her neighbours, see W. EBERHARD, Ankara Üniversitesi Yilligi 2 (1948), 185.

[242] Note the statement of Pan Ch'ao in a letter to the emperor in A. D. 78 that one benefit to be derived from possession of the Tarim Basin was a regular flow of gifts and tribute to the emperor. HHS 77, cf. E. CHAVANNES, TP 2ser. 7 (1906), 226. On the nature of such non-utilitarian objects of tribute the details of the events of A. D. 221 are of relevance. The Wei emperor sent an envoy to demand from his rivals, the Wu, "sparrow-head incense, large mussels, pearls, ivory, rhinoceros-horns, tortoise-shells, peacocks, lapis lazuli, fighting ducks, time-keeping cocks." From the *chiang-piao chüan* quoted in SKC XVI. Wu 2.10b, commentary, cf. the translation in A. FANG, The Chronicle of the Three Kingdoms, 59—60. Also in Han *fu* the receipt of tributary articles such as animals and jewels by the emperor is considered praiseworthy, see YING-SHIH YÜ, Trade and Expansion, 194. On the nature of the Han *fu* see H. WILHELM, The Scholar's Frustration: Notes on a Type of Fu, in: J. K. FAIRBANKS (ed.), Chinese Thought and Institutions (Chicago 1957),

310—319. Cf. W. EBERHARD, Ankara Üniversitesi Yilligi 2 (1948), 148 for this motivation in the T'o-pa period.

[243] See above p. 687, n. 40; p. 687, n. 44.

[244] For Persian goods found in the Altai see above p. 689, n. 49.

[245] See particularly the comments of P. GRIERSON, TrRoyHistSoc 5ser. 9.1 (1959), 123—140 and above the general discussion of the non-economic movement of goods, p. 609.

[246] See for example below the problem of the movement of beads in antiquity on the littoral of the Indian Ocean, p. 921, n. 1101. Cf. in general the comments of J. C. VAN LEUR, Indonesian Trade and Society (The Hague/Bandung 1955), 53—56. In general on the problem of writing economic history from archaeological materials in the absence of documents, see S. C. MALIK, Archaeology as a Source in Writing Socio-Cultural and Socio-Economic History, Eastern Anthropologist 21 (1968), 292—296; C. RENFREW, The Emergence of Civilization (London 1972), 22—23; K. C. CHANG, Ancient Trade as Economics or as Ecology, in: J. A. SABLOFF and C. C. LAMBERG-KARLOVSKY (eds.), Ancient Civilization and Trade (Albuquerque 1975), 214—215.

[247] See J. C. PAYNE, Lapislazuli in Early Egypt, Iraq 30 (1968), 58—61; also G. HERRMANN, Lapislazuli: The Early Phases of its Trade, Iraq 30 (1968), 21—57. Goods from Western Asia also occasionally made their appearance in the East. E. g. the hoard of Near Eastern metal objects found at Khak in Ferghana, see V. M. MASSON, Kul'tura Margiany, 114—115.

[248] I use the term „barter" here as a moneyless transaction of any sort. For other possible meanings see G. DALTON, Karl Polanyi's Analysis of Long-Distance Trade and his Wider Paradigm, in: J. A. SABLOFF and C. C. LAMBERG-KARLOVSKY (eds.), Ancient Civilization and Trade, 121 n. 39. This need not imply a „primitive" form of economic exchange, cf. K. POLANYI, et al., Trade and Market in the Early Empires (New York 1957), 14 and J. C. VAN LEUR, Indonesian Trade and Society, 55—56.

[249] For a description of how such indirect trade might be carried on see M. E. L. MALLOWAN, The Mechanics of Ancient Trade in Western Asia, Iran 3 (1965), 1—7; also C. C. LAMBERG-KARLOVSKY, Trade Mechanisms in Indus-Mesopotamian Interrelations, JAOS 92.2 (1972), 222—229 who stresses that the discovery of small archaeological artifacts from one culture in areas geographically remote from their supposed place of manufacture does not constitute evidence of "Direct Contact Trade". Cf. E. C. L. D. CASPERS, Harappan Trade in the Arabian Gulf in the Third Millenium B. C., Mesopotamia 7 (1972), 176—177.

[250] A Han despatch from Chü-yen (LAO KAN, Chü-yen Han-chien k'ao-shih, no. 278.7) orders that upon the approach of an enemy raiding party the "Free passage of travellers [through the barriers] is forbidden." See M. LOEWE, Some Military Despatches of the Han Period, TP 2 ser. 51 (1964), 342—345; also ibid., no. 12.1 (possibly 75 B. C.): "... it is forbidden to travellers to ..., ride on horseback, hunt, work at agricultural plots, pasture or tend animals, or snare birds; ..." Text and translation in: M. LOEWE, ibid, 345—348. In the late second and third centuries travel in the Tarim Basin was also hindered by raiders known to the local inhabitants as *Supis*. See the references to raids or the threat of raids in Kh.Inscr. nos. 86, 88, 119, 126, 133, 139, 212, 272, 324, 351, 491, 578, 722. A number of Chinese documents from the Tarim Basin are dated by long-expired *nien-hao* or era names (on which see especially E. FAGAN and F. A. WRIGHT, Era Names and Zeitgeist, Études Asiatiques 5 [1951], 113—121 and M. C. WRIGHT, What's in a Reign Name? The Uses of Historical Philology, JAS 18.1 [1958], 103—106) which CHAVANNES and STEIN attribute to a breakdown in communications. See the example from Lou-lan discussed above p. 713, n. 218. Similarly the Chinese documents of the T'ang period from Dan-Dan-Uiliq, see CHAVANNES in: M. A. STEIN, Ancient Khotan, 525—529 no. 3: 3 years out of date; no. 4: 2 years out of date; no. 9: 4 years out of date and no. 10: 3 years out of date. All of the documents come from the period A. D. 781—787. See also one of the Sogdian letters of c. A. D. 196 (see below p. 793, n. 635 for date) which describes events in China at the fall of the Later Han dynasty. The writer reports that no Sogdians have come from Inner

China along the route to the Northwest in three years. See new edition of the text and translation by J. HARMATTA, Eine neue Quelle zur Geschichte der Seidenstraße, JWG (1971), 2.138—141. For a similar case in Roman Egypt see R. RÉMONDON, Les dates de la révolte de C. Avidius Cassius, CE 26 (1951), 370, who cites an instance where the death of Septimius Severus is known in Arsinoe on May 30, but still apparently unknown more than eight months later in Oxyrhynchus, only 60 miles away. Since a break in communication is in this case an unlikely explanation, other factors such as scribal error may be the cause. This suggests that perhaps on the Chinese frontier also CHAVANNES' explanation may not be the only possibility.

[251] It is a dangerous and unreliable procedure to study the organization of the caravan trade in the Mongol period and then to suggest that the same features were characteristic of the trade in the early centuries of the Christian era. For this method of argument see W. C. BRICE, Caravan Traffic across Asia, Antiquity 28 (1954), 82—84.

[252] For evidence of Sogdian commercial organization see below p. 793, n. 636.

II

[253] Of nineteenth century works see: F. HIRTH, Zur Geschichte des Antiken Orienthandels, in: Chinesische Studien 1 (München/Leipzig 1890), 1—24; IDEM, China and the Roman Orient (Shanghai/Hong Kong 1885), passim; H. NISSEN, Der Verkehr zwischen China und dem Römischen Reiche, Jahrbücher d. Vereins von Altertumsfreunden im Rheinlande 95 (1894), 1—28. The major studies of the present century are: M. CHVOSTOV', Istoriia Vostochnoi Torgovli: Greko-Rimskago Egipta (Kazan 1907), 147—157, 176, 237—238, 391—394; W. H. SCHOFF, Proc. Num. and Ant. Soc. of Philadelphia (1913), 47—64; M. P. CHARLESWORTH, Trade-Routes and Commerce of the Roman Empire, 2nd. rev. ed. (London 1926), 98—111; G. F. HUDSON, Europe and China (London 1931), 68—133; YING-SHIH YÜ, Trade and Expansion, passim; J. I. MILLER, The Spice Trade of the Roman Empire, 29 B. C. to A. D. 641 (Oxford 1969), 119—141; J. THORLEY, The Development of Trade between the Roman Empire and the East under Augustus, G & R 16 (1969), 209—223; IDEM, The Silk Trade between China and the Roman Empire at its Height, circa A. D. 90—130, G & R 18 (1971), 71—80; E. H. WARMINGTON, The Commerce Between the Roman Empire and India, 2nd. rev. ed. (London/New York 1974), passim.

[254] For Chinese gifts and tribute of silk see above p. 709, n. 185.

[255] On the monopoly theory see M. A. STEIN, Ancient Khotan, 1.229—230; G. M. A. RICHTER, Silk in Greece, AJA 33 (1929), 29: "the secret of its production [in China] was jealously guarded"; R. HENNIG, Die Einführung der Seidenraupenzucht ins Byzantinerreich, BZ 33 (1933), 298, 301: *„strengen Ausfuhrverbot"*; O. H. BEDFORD, The Silk Trade of China with the Roman Empire, ChJour 28.5 (1938), 211—212; F. BERGMAN, BMFEA 7 (1953), 123; H. J. SCHMIDT, Alte Seidenstoffe (Braunschweig 1958), 9; J. THORLEY, G & R 18 (1971), 78.

[256] This suggestion is frequently made and some have even linked the decline of the Roman Empire to this trade; G. F. HUDSON, Europe and China, 99: "It cannot be denied that the drain of bullion and specie by the oriental trade was one of the major factors in the economic decline of the Roman world."; O. H. BEDFORD, ChJour 28.5 (1938), 208, 210—211; J. THORLEY, G & R 16 (1969), 209: "the gravest economic mistake made by the Romans". Others simply regard the trade as dangerous: J. I. MILLER, Spice Trade, 219—223, 229—230; N. CAMERON, Barbarians and Mandarins: Thirteen Centuries of Western Travellers in China (New York/Tokyo 1970), 20; E. H. WARMINGTON, Commerce², 311—318 placing the blame for the eventual collapse of the *denarius* on the drain of silver to the East.

[257] The definitive collection of Han legal texts is A. F. P. HULSEWÉ, Remnants of Han Law, 1, Sinica Leidensia 9 (Leiden 1955). On the items considered as contraband see YING-SHIH YÜ, Trade and Expansion, 119—132.

[258] See discussions and translations of the text in A. Remusat, Histoire de la Ville de Khotan (Paris 1820), 55—57; M. A. Stein, Ancient Khotan, 1.229—230; Hiroshi Wada, Serinda, 51—53. For the Tibetan variant version of the legend found in the 'Annals of the Li Country', see F. W. Thomas, Tibetan Literary Texts and Documents Concerning Chinese Turkestan (London 1935), 1.110—111.

[259] A painted panel from Dan-Dan-Uiliq illustrating the Chinese version of the legend was published in M. A. Stein, Ancient Khotan, 1.230, 259—260, D.iv.5; 2.pl. LXIII which shows a figure pointing at the headdress of the princess where the silkworms are concealed. Another badly damaged panel illustrating part of the legend comes from Khadalik. Other panels are in private collections and in the Hermitage in Leningrad. All of the scenes are assembled in J. Williams, The Iconography of Khotanese Painting, E & W 23.1/2 (1973), 147—150, figs. 57—64. The panels representing the legend are also analysed by N. D'iakonova, Materialy po kul'tovoi ikonografii Ceptral'noi Azii domusul'manskogo perioda, Trudy Gosudarstvennogo Ermitazha 5 (1961), 268—269; Idem, Document of Khotanese Buddhist Iconography, Artibus Asiae 23 (1960), 229—230.

[260] For the fifth century date see A. Rémusat, Histoire de la Ville de Khotan, 34, 55; H. J. Klaproth, Tableaux historiques de l'Asie, xiv: A. D. 419; Tsen-Tsan Siao, Die chinesische Seidenindustrie, Inaug. Diss. (Leipzig 1929), 5; R. Hennig, BZ 33 (1933), 289, 301. Cf. J. Williams, E&W n. s. 23.1/2 (1973), 109—110 who assigns the paintings of Dan-Dan-Uiliq to c. A. D. 700 or later. The Chinese documents from the site published by E. Chavannes in: M. A. Stein, Ancient Khotan, 1.526—533 all fall into the period 781—790 (further details above p. 718, n. 250). Hiroshi Wada, Serinda, 53—54 correctly rejects the historical reliability of the tale told by the Buddhist monk.

[261] See the more convincing explanation proposed by Hiroshi Wada, that a sacrifice to the silk goddess is portrayed, in Serinda, 56—58; cf. N. D'iakonova, Artibus Asiae 23, (1960), 229—230.

[262] T'ai p'ing yü lan 955.3b. See text and commentary in G. Schreiber, The History of the Former Yen Dynasty, MS 14 (1949/55), 400.

[263] Discussed by W. Eberhard, Kultur und Siedlung der Randvölker Chinas (Leiden 1942), 15—16.

[264] A case for this is made by Hiroshi Wada, Serinda, 23—30.

[265] SKC Wei. 13.7a. Model officials of Confucian persuasion, when sent to underdeveloped frontier regions, saw it as their first duty to teach the native peoples cultivation and sericulture. See Hisayuki Miyakawa, The Confucianization of South China, in: A. Wright (ed.), The Confucian Persuasion (Stanford 1960), 29—31; Ying-shih Yü, Trade and Expansion, 87—88.

[266] M. A. Stein, Serindia, 1.238 (Niya); 404—405 (Lou-lan).

[267] See M. A. Stein, Ancient Khotan, 1.134; Idem, Serindia, 2.650. See also a donkey's saddle-tree made of mulberry wood from N.viii at Niya, Idem, Ancient Khotan, 1.332.

[268] See O. Franke, Kêng Tschi T'u: Ackerbau und Seidengewinnung in China (Hamburg 1913), 130. In fact, the silkworm will eat almost anything, but the mulberry has come to be the preferred food since it is easy to cultivate and produces a better quality silk. See G. K. C. Liu, The Silkworm and Chinese Culture, Osiris 10 (1952), 142, 178—179, cf. 181—182 for plant substitutes for the mulberry. Also on widespread cultivation of mulberry trees see Tsen-Tsan Siao, Die chinesische Seidenindustrie, 4,7.

[269] Cf. Hiroshi Wada, Serinda, 23—30. It has been suggested that several of the silks found at Lou-lan are, to judge from their Western motifs, Tarim Basin products, possibly from Khotan. So P. Ackerman, in: SPA 2.685, 687. The textiles in question are M. A. Stein, Innermost Asia, 249, L. C. 033, pl. XLV; 257, L. C. vii.04, pl. XXXV. In general on the

silks in the Stein collection see earlier literature above n.237 and several recent technical studies: K. Riboud, Procedures and results of a study: Sir Aurel Stein Textile Collection at the National Museum, New Delhi, BLCIETA no. 32 (1970), 24—39; G. Vial, Analyse Technique des Enchantillons, ibid., 40—73, and more briefly, K. Riboud, Essential problems concerning Central Asian silks, JIM 25/26 (1969/70), 56—63.

[270] An important silk industry developed in Iran early in the Sasanian period. See R. V. Ricciardi, Note sull'arte tessile sasanide, Mesopotamia 3/4 (1968/69), 385—415. The Sasanian province of Gurgan became famous in the sixth century and later for the silk it produced. Cf. P. Ackerman, Some Mediaeval Silks from the Caspian Provinces of Iran, BNBC 39.1/2 (1955), 31—32. It has been argued that some of the Lou-lan silks already show marked Parthian characteristics (e. g. Stein, Innermost Asia, 1. 241, 255, no. L.C.v.01, pl. XXXI; cf. nos. L.C.v.06 and L.C.v.09); see P. Ackerman, in: SPA 2.685—690.

[271] The earliest silk found in India comes from the excavations at Nevasa and is attributed to the latter part of the second millenium B. C. See A. N. Gulati, A Note on the Early History of Silk in India, in: Technical Reports on Archaeological Remains (Poona 1961), 55—57, figs. 1—2.

[272] Mahābhārata I. 47.22; Arthaśāstra II. 11.

[273] J. Charpentier, ZDMG 71 (1917), 372; R. Hennig, Terrae Incognitae, 1.218—219, 221; R. Thapar, State Weaving-shops of the Mauryan Period, Journal of Indian Textile History 5 (1960), 56; G. R. Tibbets, Pre-Islamic Arabia and South-East Asia, JMBRAS 29.3 (1956), 188; L. Gopal, Textiles in Ancient India, JESHO 4 (1961), 64—66; Ying-shih Yü, Trade and Expansion, 152; Hiroshi Wada, Serinda, 10. Also on the distinction between *amsuka* and *cīnāmśuka*, see V. S. Agrawala, References to Textiles in Bana's Harshacharita, Journal of Indian Textile History 4 (1959), 65, 68. But these very references to China are important arguments in the dating of the 'Arthaśāstra' see P. Pelliot, L'Origine du Nom 'Chine', TP 2 ser. 13 (1912), 727—742 and B. Laufer, The Name China, ibid., 719—726; also T. R. Trautman, Kauṭilya and the Arthaśāstra (Leiden 1971), 5, 177. Other evidence for early trade between India and China has been discussed above p. 699, n. 110 and p. 706, n. 162. The large bronze cocking device of a Chinese crossbow was found in the Parthian palace at Taxila (cf. J. Marshall, Taxila, 1.179 without identification). This object was identified and republished by S. van R. Cammann, Sinologica 5.1 (1958), 9—16 who suggests that it came to Taxila as a battle trophy. A small Chinese coin of the Former Han Dynasty also deserves mention, Mysore Arch. Dept., An.Rep. (1910), 44. This coin, from the Chandravalli excavations, is in the Chitaldrug Museum, see M. G. Dikshit, A Chinese Coin from Sirpur, JNSI 18 (1956), 66 n. 1.

[274] L. Gopal, JESHO 4 (1961), 61—63. For the various types of wild silkworms native to India see G. K. C. Liu, Osiris 10 (1952), 189—190.

[275] For the problem of the dating see below p. 938, n. 1150.

[276] CIInd III. p. 89. See discussion of early Indian silk industry in S. K. Maity, Economic Life in Northern India in the Gupta Period (Cir. A.D. 300—550), 2nd. rev. ed. (Delhi/Patna 1970), 148—149; M. Aquique, Economic History of Mithila (c. 600 B. C.—1097 A. D.), (New Delhi 1974), 131. The recent study by H. Chakraborti, Trade and Commerce of Ancient India (c. 200 B. C. — c. 650 A. D.) (Calcutta 1966), 260—261 is totally confused. Also M. Chandra, Costumes, Textiles, Cosmetics and Coiffure in Ancient and Mediaeval India (Delhi 1973), 30, 79 who identifies some of the costumes worn by the kings in the Gupta period cave painting at Ajanta as silk.

[277] See analysis by E. Huchinson of no. 264 in: P. Pfister and L. Bellinger, The Excavations of Dura-Europos, Final Report IV, part II: The Textiles (New Haven 1945), 54.

[278] W. T. M. Forbes, The Silkworm of Aristotle, CPh 25 (1930), 22, 25; F. E. Day, Aristotle: Τὰ Βομβύκια, in: Studi Orientalistici in Onore di Giorgio Levi della Vida (Rome 1956), 1.213.

[279] O. Franke, Kêng Tschi T'u, 132, 171—172 who mentions the use of steam or salt to kill the pupa. Also G. K. C. Liu, Osiris 10 (1952), 174—176.

[280] For Cos Forbes suggests two species of silkworms native to Southeastern Europe: *Saturnia pyri* and *Pachypasa otus*. W. T. M. Forbes, CPh 25 (1930), 25; see also the list of wild silkworms of Asia in G. K. C. Liu, Osiris 10 (1952), 189—191. Cf. E. Handschin, Wild Silk moths, CRev 53 (1946), 1915—1922.

[281] In the nineteenth century it was thought that Coan silk was rewoven Chinese silk, see F. Hirth, China, 259—260; Idem, Ch.St. 1.10—11; W. H. Schoff, Proc. Num. and Ant. Soc. of Philadelphia (1913), 48—49; also M. P. Charlesworth, Trade Routes^2, 109. The earliest certain reference to the production of this fabric is found in Aristotle, Hist. Anim. V.19.6: Ἐκ δέ τινος σκώληκος μεγάλου, ὃς ἔχει οἷον κέρατα καὶ διαφέρει τῶν ἄλλων, γίγνεται πρῶτον μὲν μεταβαλόντος τοῦ σκώληκος κάμπη, ἔπειτα βομβύλιος, ἐκ δὲ τούτου νεκύδαλος· ἐν ἓξ δὲ μησὶ μεταβάλλει ταύτας τὰς μορφὰς πάσας. Ἐκ δὲ τούτου τοῦ ζῴου καὶ τὰ βομβύκια ἀναλύουσι τῶν γυναικῶν τινες ἀναπηνιζόμεναι, κἄπειτα ὑφαίνουσιν· πρώτη δὲ λέγεται ὑφῆναι ἐν Κῷ Παμφίλη Πλάτεω θυγάτηρ. The correct interpretation of this passage is given by W. T. M. Forbes, CPh 25 (1930), 22—26. A considerably less scientific description of the production of Coan silk is found in Pliny NH XI.76—77. Richter has argued that the chitons of Amorgis, renowned for their diaphanous quality (cf. Aristophanes, Lysistrate, 150—151: κἄν τοῖς χιτωνίοισι τοῖς ἀμοργίνοις / γυμναὶ παρίοιμεν) were products of the wild silkworms of that island. See G. M. A. Richter, AJA 33 (1929), 31—33. For the argument that much of the diaphanous drapery on the sculptures of the eastern Aegean is intended to suggest Coan silk see H. Weber, Coae Vestes, MDAI(I) 19/20 (1969/70), 250—253; E. Gullberg and P. Aström, The Thread of Ariadne. A Study of Ancient Greek Dress, Studies in Mediterranean Archaeology 21 (Göteborg 1970), 42. See also M. Rostovtzeff, SEHHW 1.241, 243. Cf. F. E. Day, in: Studi Orientalistici in Onore di Giorgio Levi della Vida, 1.207—214 who argues that Coan silk textiles are produced from yarn imported from Syria where wild silk was also produced. The attribution of wild silk production to Cos is rejected by S. Lieberman, Contact between Rome and China, 57—58, who argues that Aristotle's statement is derived from information about China obtained by Alexander's expedition. Lieberman is, however, unfamiliar with the modern studies of the problem cited above.

[282] For wild silkworms of India, China and Central Asia see G. K. C. Liu, Osiris 10 (1952), 136—137, 189—191; L. Gopal, JESHO 4 (1961), 61—63; Tsen-Tsan Siao, Die chinesische Seidenindustrie, 32—34. For the modern importance of wild silk production in Northern China see Y. Morise, Wild Silk in Manchuria, ChJour 8.5 (1928), 238—246, who notes that in 1925 the South Manchuria Railway carried 12,000 tons of wild silk cocoons and 1,100 tons of raw wild silk (p. 239). For Assyrian silk see Pliny NH XI.75: *Quartum inter haec genus est bombycum, in Assyria proveniens, . . .* There follows (NH XI.75—78) a thoroughly confused description of the life cycle of the wild silkworm and the production of a textile fabric. The question of the connexion of the Greek for wild silkworm and its cocoon, βόμβυξ, βομβύκιον, with the name of the city in northern Syria, Βαμβύκη (Strabo XVI. 2.7), was raised first by C. Clermont-Ganneau, Manboug-Hiérapolis dans les inscriptions nabatéennes, RAO 4 (1910), 99—112 in a discussion of the original name of the city Manbigita in an inscription from Petra. See now F. E. Day, in: Studi Orientalistici in Onore de Giorgio Levi della Vida, 1.207—218 who argues that the town was the centre of wild silk production for almost a thousand years. Cf. the tentative identification by Oppenheim of *ṭumânu* in two tablets from Uruk, YOS 6.168 and TCL 1284, as Assyrian 'silk' in L. Oppenheim, Essay on Overland Trade in the First Millenium B.C., JCS 21 (1967), 248—252. The texts date from 550 and 551 B.C., cf. also the transcription of a third document PTS 2098 in ibid., 236 n. 1.

[283] Several textile fragments identified as Indian silk were excavated at Dura, see the report of the microscopic examination of silks by E. Huchinson in: R. Pfister and L. Bellinger, The Excavations of Dura Europos, The Textiles, 54.

[284] Lucan, X.141—143: *candida Sidonio perlucent pectora filo, / quod Nilotis acus conpressum pectine Serum / soluit et extenso laxauit stamina uelo.* For the interpretation mentioned above see J. MARQUARDT, Das Privatleben der Römer (Leipzig 1886), 2.496—497; F. HIRTH, China, 257—260; G. F. HUDSON, Europe and China, 91—92, 97; A. SARASIN, Die Seidenstraßen von China nach dem römischen Kaiserreich, Sinologica 1 (1948), 96; YING-SHIH YÜ, Trade and Expansion, 158; J. THORLEY, G&R 16 (1969), 217; WARMINGTON, Commerce², 175.

[285] See above pp. 619—621.

[286] The Han tombs at Mancheng yielded a thin female shift-like garment which weighed only 39 grams. For the excavations see YEN-WEN KU, Han Tombs at Mancheng, in: New Archaeological Finds in China (Peking 1973), 14—20. For the fine Chinese gauzes found at Noin Ula see E. B. SACHS, BNBC 20.1/2 (1936), 76—78.

[287] Periplus c. 39 (FRISK, p. 13.11) lists among the exports from Barbaricum νῆμα Σιρικὸν; also from Barygaza, Periplus c. 49 (FRISK, p. 16.30) and Periplus c. 64 cited below p. 745, n. 434.

[288] A clause of the Price Edict of Diocletian is important here, 23.2: τοῖς τὸ σηρικὸν λύουσιν μετὰ τῆς τροφῆς (LAUFFER). From which it is sometimes assumed that the cocoons are imported and unwound, so A. H. M. JONES, The Cloth Industry under the Roman Empire, EHR 13.2 (1960), 192; cf. S. LAUFFER, Diokletians Preisedikt (Berlin 1971), 270 who speaks of the unravelling of „*handelsüblichen Ballen*".

[289] Garments described as *subsericae* are sometimes mentioned in our literary sources. See J. MARQUARDT, Privatleben, 497—498. Also Diocletians Price Edict 20.1a: πλουμαρίῳ εἰς στίχην συνψειρικόν; 20.9: σειρικαρίῳ ἐργαζομένῳ εἰς σουψειρικὸν τρεφομένῳ (LAUFFER). For excavated examples of such textiles, see below p. 727, n. 322.

[290] The references to garments made entirely of silk are numerous, e. g. H. A. Elag. 26.1: *Primus Romanorum holoserica veste usus fertur, cum iam subsericae in usu essent.* On the reliability of this remark see the general comments on largely imaginative catalogues of luxuries and vices in the 'Elagabalus' in R. SYME, Ammianus and the Historia Augusta (Oxford, 1968), 186—188; more recently IDEM, Emperors and Biography, Studies in the Historia Augusta (Oxford 1971), 118. Further sources collected in J. MARQUARDT, Privatleben, 497—498. Also CIL VI.9893: *Paulus olosiricoprates* and the Edict of Diocletian, 7.49: ἀνοίξεως καὶ ὑποράψεως ὁλο[σειρικοῦ 𐆖 λ']; 20.2: εἰς στίχην ὁλοσειρικὸν οὐ(γκίας) α' 𐆖 τ'; 20.7: βαρβαρικαρίῳ εἰς ὁλοσειρικὸν οὐ(γκίας) α' 𐆖 φ'; 20.10: εἰς ὁλοσειρικὸν ἄσημον τρεφομένῳ ἡμερήσια 𐆖 κε'; 20.11: εἰς ὁλοσειρικὸν σκουτλᾶτον 𐆖 μ'.

[291] See above pp. 617—620.

[292] F. HIRTH, China, 225 n. 2; IDEM, Ch.St. 1.11.

[293] YING-SHIH YÜ, Trade and Expansion, 159; D. SPERBER, Costs of Living in Roman Palestine, III, JESHO 11 (1968), 239 n. 1, cf. his second thoughts, JESHO 13 (1970), 14; HIROSHI WADA, Serinda, 19; J. I. MILLER, Spice Trade, 141, 221; E. H. WARMINGTON, Commerce², 175.

[294] The earliest silk excavated to date in China is dated to the second millennium B.C., V. SYLWAN, Silk from the Yin Dynasty, BMFEA 9 (1937), 125—126, from Hsi-yin in southern Shansi. On the general importance of silk in ancient Chinese life and religious ceremonies and rituals associated with its production cf. HS 5.9a, cf. H. H. DUBS, HFHD 1.328; E. T. WILLIAMS, The Worship of Lei Tsu, Patron Saint of Silk Workers, JRASNCB 67 (1936), 1—14; P. ACKERMAN, Early Textile Production in China, BNBC 30.1/2 (1946), 66—67; O. FRANKE, Kêng Tschi T'u, 39—64, 127—138; G. K. C. Liu, Osiris 10 (1952), 130—188; HIROSHI WADA, Serinda, 1—6. In theory at least every family had a portion of land set aside for mulberry trees, see TSEN-TSAN SIAO, Die chinesische Seidenindustrie, 4. Some idea of the importance of silk may be seen in the memorial of Kao-t'ang Lung

in A.D. 237: "Grain and silk are the life of the people. Grain and silk cannot grow without assistance from the super-natural, nor can they be produced without human effort. Therefore, an Emperor tills the land in person to encourage agriculture and an Empress attends to the mulberry leaves to make silk."

[295] For example HS 6.30a, cf. H. H. DUBS, HFHD 2.96 (106 B.C.); HS 8.14a, cf. HFHD 2.234 (63 B.C.); HS 8.15b, cf. HFHD 2.238 (62 B.C.); HS 8.16a, cf. HFHD 2.241 (61 B.C.); HS 8.21b, cf. HFHD 2.256 (52.B.C.) etc. Cf. also the wording of an imperial edict of 74 B.C.: "The empire considers agriculture and sericulture to be the fundamental activities ... Those who plow and cultivate silkworms have become increasingly many, yet the people are not yet able to have sufficient food and clothing." HS 7.10a, cf. HFHD 2.173—174. Decrees of the Later Han all express the redemption fees in bolts of cloth; so A. F. P. HULSEWÉ, Han Law, 1.208. Cf. Chin-shu 26.5a which reports that in A.D. 204 a levy of two *pi* of silk and two *chin* of silk floss were placed on every household. Translated by LIEN SHENG YANG, Notes on the Economic History of the Chin Dynasty, HJAS 9 (1946), 147.

[296] M. A. STEIN, Serindia 1.373—374; 2.701, T. XV.a.iiii 57, pl. XXXVII; IDEM, Ruins of Desert Cathay (London 1912), 2.125: "A roll of silk from K'ang-fu in the Jen-ch'êng Kingdom; width 2 feet 2 inches; length 40 feet; weight 25 ounces; value 618 pieces of money." cf. CHAVANNES, Documents chinois no. 539, dating it to post A.D. 84 when the kingdom of Jen-ch'êng was created. Also published with transcription and translation by M. A. STEIN, Central Asian Relics of China's Ancient Silk Trade, TP 2 ser. 20 (1921), 130—134 and additional comments of P. PELLIOT, ibid., 138—141. Cf. HHS 72.17b: "During the period of Shun Ti (A.D. 126—144) the barbarians rebelled several times, and Lord Ts'ung of Jen-ch'êng frequently contributed money and silk to aid the defence of the frontier." See below p. 791, n. 629 for size of a roll with Brāhmī inscription.

[297] For the exact width of a *pi* of silk, see M. A. STEIN, Serindia 1.373—374, where he discusses the size of a roll of silk found at Lou-Lan, L. A. I.002. For two Han foot measures found by STEIN, see ibid., 2.652, T. VIII.4; 4 pl. LIV; 2.668, T. XI.ii.13 and IDEM, TP 2 ser. 20 (1921), 132—134. On the official size of one *pi* of any textile see TSUEN-HSUIN TSIEN, Written on Bamboo and Silk (Chicago 1962), 119—121. TSIEN notes that as late as A.D. 473 a government decree insisted on the standardization of all silk to the forty-foot length and a width of two feet, two inches.

[298] In translating the weight STEIN and CHAVANNES simply substituted a suitable European term and appear not to have calculated out the exact equivalent.

[299] TSUEN-HSUIN TSIEN, Written on Bamboo and Silk, 125—126. See also the various terms listed in H. H. DUBS, HFHD 1.328 n. 94.

[300] For examples of such fine textiles see the silks excavated from the Han tombs at Changsha Hunan R. C. RUDOLPH, Two Recently Discovered Han Tombs, Archaeology 26.2 (1973), 110—112.

[301] The evidence which these documents contain has largely been ignored by scholars interested in the silk trade. The Chinese documents of the Stein expeditions are contained in E. CHAVANNES, Les documents chinois découverts par Aurel Stein dans les sables du Turkestan Oriental (Oxford 1913); H. MASPERO, Les documents chinois de la troisième expédition de Sir Aurel Stein en Asie Centrale (London 1953); the Chinese documents of the Sven Hedin expeditions are only partly accessible in non-Oriental languages, A. CONRADY, Die Chinesischen Handschriften — und sonstige Kleinfunde Sven Hedins in Lou-lan (Stockholm 1920). The approximately 10,000 documents found by the Sino-Swedish expedition are available in three corpora: Chü-yen Han-chien k'ao-shih shih-wen chih (Shanghai 1949), Chü-yen Han-chien ch'a-pien (Peking 1959), LAO KAN, Chü-yen Han-chien (Taipei 1960). A selection of these is available in: M. LOEWE, Records of Han Administration (Cambridge 1967), 2 vols. These documents constitute as valuable a source for the economic history of Northwest China as papyri are for Egypt.

[302] For payment of Han soldiers and officers in silk rather than cash see Chavannes, Documents chinois, no. 490 possibly from the reign of Wang Mang: an officer receives 32 feet of silk; cf. on this document M. Loewe, Some Notes on Han-Time Documents, TP 2 ser. 50 (1963), 174. Chavannes, Documents chinois, no. 539: 618 cash for one *pi*; Loewe, Records, 1 no. 35.6, one roll of black silk(?) valued at 1200 cash; Idem, Records, 2. no. MD 12.5: 2 *pi* of silk are paid as the equivalent of 900 cash; Lao Kan, Chü-yen Han-chien, no. 5634, cf. Ch'un-shu Chang, Colonization of the Ho-Hsi Region, 301: one *pi* valued at 400 cash; Lao Kan, op. cit., no. 6196, cf. Ch'un-shu Chang, op. cit., 302: one *pi* of silk valued at 400 cash and 2 *ching* and 8 *liang* of coarse refuse silk valued at 400 cash; Chü-yen Han-chien chia-pien, no. 1583: "Given out 8 *pi*, 1 *chang*, 3 *chih* and $4^2/_3$ *ts'an* of 20 *liang* silk from the Ho-nei Prefecture, valued at 2,987 cash; cf. Ch'un-shu Chang, op. cit., 301. For silk among soldiers' clothing see A. F. P. Hulsewé, Han-Time Documents, TP 2 ser. 45 (1957), 39; Chavannes, Documents chinois, no. 72 and Maspero, Documents chinois, no. 94; Lao Kan, op. cit., no. 1477: a pair of silk trousers belonging to a farming soldier. Cf. also Chin-shu 26.5b noting that in A.D. 301 the imperial treasury contained 4,000,000 *pi* of silk. Cf. Lien-sheng Yang, HJAS 9 (1946), 149.

[303] H. A. Aurelian 45.4—5: *vestem holosericam neque ipse in vestiario suo habuit neque alteri utendam dedit. et cum ab eo uxor sua peteret, ut unico pallio blatteo serico uteretur, ille respondit, "Absit ut auro fila pensentur." libra enim auri tunc libra serici fuit.* The passage is frequently cited.

[304] 24.1: περὶ πορφύρας. 24.1a: μεταξαβλάπτ[η]ς λι. α' 𐆖 M̈ 24.2: βλάπτης λι α' 𐆖 Ṁ.

[305] Bruin estimates that Royal purple was worth ten or twenty times its weight in gold but gives no documentary evidence to support this, F. Bruin, Royal Purple and the Dye Industries of the Mycenaeans and Phoenicians, in: M. Mollat (ed.), Sociétés et Compagnies de Commerce en Orient et dans l'Océan Indien (Paris 1970), 77.

[306] E. g. see Edict of Diocletian 23.1—2: Περὶ τῆς τειμῆς τῶν σηρικῶν σηρικοῦ λευκοῦ λι. α' 𐆖 M̊ β. P. Dura 30.20 has been thought to contain a reference to silk: Μηδίσκ[ια] καὶ ἐπικάρ[σ]ι̣[α κενά, δ]η[ν]α̣ρίων πεντήκο̣ν̣[τα]. The interpretation of Μηδίσκια as silk is based on Procopius, Bell. Pers. I.20.9: ἡ μέταξα ἐξ ἧς εἰώθασι τὴν ἐσθῆτα ἐργάζεσθαι ἣν πάλαι μὲν Ἕλληνες Μηδικὴν ἐκάλουν, τανῦν δὲ σηρικὴν ὀνομάζουσιν . . . .

[307] Since a single diaphanous garment could weigh as little as 39 grams (see above p. 723, n. 286 for the silk from Mancheng) such a low price would not be unreasonable. For dress of prostitutes see K. Schneider, RE XV.1 (1931), s. v. Meretrix, 1024 and below, p. 726, n. 315.

[308] E. g. F. Hirth, Ch. St., 11—12 and J. I. Miller, Spice Trade, 141, 222—230.

[309] Pliny, NH VI.101; XII.84; see text in full below p. 766, n. 525.

[310] F. Hirth, Ch. St., 11—12 came to this conclusion: „*Und wenn wir diese Summe in Gold verwandeln, wie viel Seide würde dadurch repräsentiert, wenn dieser Artikel wirklich in Gold aufgewogen würde? . . . die Einfuhr von Seide müßte eine lächerlich geringe gewesen sein, . . .*" Hirth refusing to accept such an answer proposed that Pliny was only speaking of the annual cash deficit involved in the trade (see further below).

[311] If we allow 300—400 lbs silk per camel (for carrying capacity of camels see J. G. Février, Essai sur l'Histoire Politique et Économique de Palmyre (Thèse Paris 1931), 60—61, who suggests 150—200 kgrs.; cf. R. W. Bulliet, who notes that 400 lbs is in fact very little. Modern loads for camels run up to 1,200 lbs, see The Camel and the Wheel [Cambridge, Mass. 1975], 20, 281—282. See also below p. 1016f., n. 1511). If we assume the value of imports from China is equal to fifty million HS (i. e. in excess of Pliny's estimate), we find that about 5,500 kgrs. of gold are involved (or about 7,700 lbs.). Therefore 15 to 20 camels could carry enough silk to equal this weight in gold. This calculation is intended to show how useless all such figures are.

[312] B. Kiddushin 7B gives a price of 50 drs. for an unspecified amount of silk. Prices in Babylonia appear, however, at the time of the 'Edict of Diocletian' to have been considerably lower than in the Roman East; D. Sperber, Costs of Living in Roman Palestine, III, JESHO 11 (1968), 242—243.

[313] J. Neusner, A History of the Jews in Babylonia, I: The Parthian Period (Leiden 1969), 94—99.

[314] E. g. CIL XIV.3712 = ILS 7599: *M. Nummius Proculus siricarius* (Tibur); CIL VI.9892 = ILS 7600: *Thymele / Marcellae / siricaria* (Rome); CIL XIV.2793 = ILS 5449: mentions the generous donations (details below) of *A. Plutius Epaphroditus negotiator sericarius* (Gabii); CIL XIV.2812 = ILS 7601: the same man (Gabii); CIL VI.9678: *M. Aurelius Flavianus negotians siricarius* (Rome); IG XIV. 785: 'Ηλιόδωρος 'Αλεξάνδρου 'Αντιοχεὺς σιρικοποι[ό]ς (Naples). See also CIL VI. 9890, 9891, 9893 (all from Rome) and IG III. 3513 (Athens).

[315] Almost all of the references to this fabric may be found in the poets of the Augustan period, e. g. Hor. Serm. I.2.101—102; C. IV.13.13 (*Coae purpurae*); Tibull. II.3.53—54; 4.29—30; Propert. I.2.2; II.1.5—6; IV.2.23; 5,23; 5.55—56 (questioned by Butler and Barber, retained by D. R. S. Bailey, PCPhS 182 [1952—53], 16—17; Idem, Propertiana [Amsterdam 1967], 242); Ovid, AA II.298. The earliest reference in a Latin text is Lucr. IV.1130, so Amelung, RE 4 (1901), s. v. Coa vestis, 127 and C. Bailey's commentary, Vol. III, p. 1309 on error of Ceos for Cos. See also PSI I. 36a, l. 13 reads τ]οῦ κοιακοῦ λευκοῦ[. . The document is a marriage contract from Theadelphia (A.D. 11—19). On the suggestion that this is Coan silk see D. Magie, Roman Rule in Asia Minor (Princeton 1950), 2.818. Much study has gone into tracing the use of garments made of this material in the classical Greek period: G. M. A. Richter, AJA 33 (1929), 31—33; W. T. M. Forbes, CPh 25 (1930), 22—26; F. E. Day, in: Studi Orientalistici in Onore di Giorgio Levi della Vida, 1.207—219; also for the latter period H. Weber, Coae Vestes, MDAI(I) 19/20 (1966/70), 249—253.

[316] Pliny, NH XI.77—78; cf. Juvenal, Sat. VIII.101: *conchylia Coa* need not be Coan silk since Cos as a centre for purple manufacture presumably also dyed other fabrics; cf. CIG 2519 = IGR IV.1071: Μάρκου Σπεδίου Νάσωνος πορφυροπώλου, / 'Ελπίδος Σπεδίας πορφυροπώ[λιδος].

[317] The high price of Coan silk is indicated by the luxuries in whose company it finds itself, e. g. see Propert. IV.5.21—26.

[318] Another possibility is that Coan silk eventually began to be sold as *serica*. The suggestion made in the text is also to be found in J. P. Wild, Textile Manufacture, 13.

[319] Rostovtzeff conceived of the cities of the Roman Empire as peopled by a large and prosperous population of *bourgeoisie*, SEHRE^2 1. passim. The actual numbers of the senatorial aristocracy, *equites* and municipal aristocracy (frequently the latter two overlapped) are very small; see P. A. Brunt, Italian Manpower, 225 B.C.—A.D. 14 (Oxford 1971), 200, 210—214, 700. Also on the number of *equites* in the late Republic and early Empire see T. P. Wiseman, The Definition of 'Eques Romanus' in the Late Republic and Early Empire, Historia 19.1 (1970), 77—78, stressing the fact that the 500 *equites* at Gades and Patavium were exceptional cases. For the small number of *equites* in Pisidian Antioch, see B. Levick, Roman Colonies in Southern Asia Minor (Oxford 1967), 119—120. For the frequency and significance of equestrian rank in Roman Africa, see R. Duncan-Jones, Equestrian Rank in the Cities of the African Provinces under the Principate: An Epigraphic Survey, PBSR 22 (1967), 148—185. The exceptional nature of the high figures for *equites* at Gades and Patavium given by Strabo (III.5.3; V.1.7) can be seen by a glance at the first of the Cyrene edicts (SEG IX. 8) where Augustus notes that in 7 B.C. there were in the whole province of Cyrene only 215 Roman citizens worth more than 10,000 sesterces each. In general on the size of the equestrian *ordo* and its close relationship to municipal aristocracy, see T. P. Wiseman, New Men in the Roman Senate,

139 B.C.—A.D. 14 (Oxford 1971), 13—94. Also *liberti* were important as consumers of luxuries, particularly if they were as ostentatious as Petronius' Trimalchio. Wealthy freedmen also, of course, occasionally entered the ranks of the *equites*; cf. ibid., 70—74 and S. TREGGIARI, Roman Freedmen during the Late Republic (Oxford 1969), 64—67, 233—234. Cf. P. GARNSEY, Social Status and Legal Privilege in the Roman Empire (Oxford 1970), 242—244, 262—263. For the discordance between the low legal status of imperial *servi* and *liberti* and their occasional considerable wealth see P. R. C. WEAVER, Social Mobility in the Early Roman Empire: the Evidence of the Imperial Freedmen and Slaves, P & P 37 (1967), 10—13. For the small numbers of the wealthy and well-to-do see also R. MACMULLEN, Roman Social Relations, 50 B.C. to A.D. 284 (New Haven 1974), 90—97.

[320] For the use of silk by Roman prostitutes, see Martial XI.8.5; 27.11 (refers to silk purchased *de Tusco vico*); IX.37.3. For inscriptions related to the production and sale of silk from various cities in the Empire, see above p. 726, n. 314.

[321] The textile finds made at the various cemeteries of Antinoe in the nineteenth century and early years of this century were incredibly rich. Most of the material is now in French Museums. For the excavations see A. GAYET, L'exploration des nécropoles gréco-byzantines d'Antinoë et les sarcophages pharaoniques de la ville antique, AMG 30.2 (1902), 25—46; IDEM, L'exploration des nécropoles de la montagne d'Antinoë: Fouilles exécutées en 1901—1902, AMG 30.3 (1903), 116—140. For the major collections see E. GUIMET, Les portraits d'Antinoé, Annales du Musée Guimet, 2 ser. 5 (Paris 1912); I. ERRERA, Collection d'anciennes étoffes égyptiennes (Bruxelles 1916); J. BAILLET, Les Tapisseries d'Antinoé au musée d'Orléans (Orléans 1907); some of the Antinoe silks found their way also into the Victoria and Albert Museum in London, see A. F. KENDRICK, Catalogue of Textiles from Burying Grounds in Egypt, Vol. 3: Coptic Period (London 1922), nos. 827—834, 838—839. Cf. L. ASHTON, A New Group of Sasanian Textiles, BurlMag 66 (1935), 29—30 dates some of the textiles to the third to fifth centuries and suggests Persia as the area of production; so also R. PFISTER, Le rôle de l'Iran dans les textiles d'Antinoë, ArsIs 13 (1948), 47—52; A. GEIJER, A Silk from Antinoë and the Sasanian Textile Art, OrSuec 12 (1963), 13—34; R. V. RICCIARDI, Mesopotamia 3/4 (1968/69), 386. Also for coloured silk fabric from Qustul south of Abu Simbel (fourth century or later) see W. B. Emery, The Royal Tombs of Ballana and Qustul (Cairo 1938), 385. Examination has revealed this to be wild silk, A. LUCAS, Ancient Egyptian Materials^4, 149. Another silk find from the Roman period was made in Upper Egypt, see G. BRUNTON, Qau and Badari (London 1930), 3.26, pl. LI.5.

[322] Again the cemeteries yielded large quantities of textiles of all sorts. Textiles described by R. FORRER, Römische und byzantinische Seiden-Textilien aus dem Gräberfelde von Achmim-Panopolis (Straßburg 1891), 9—25, dated from the fourth to sixth centuries. The graves generally contain very few other indications of the wealth of the inhabitants. See also E. WIPSZYCKA, L'industrie textile, 37—39. For silk fragments from Achmim in the Victoria and Albert Museum, see A. F. KENDRICK, Catalogue of Textiles from Burying-Grounds in Egypt, Vol. 1: Graeco-Roman Period (London 1920), no. 113; IDEM, Catalogue, Vol. 3, nos. 794—806, 813, 817—820, 835—837(?), 840—841, 845—848, 850—852, 854—856. The silks in the Berlin museum which are of uncertain provenience were attributed to Achmim by J. STRZYGOWSKI, Seidenstoffe aus Ägypten im Kaiser Friedrich-Museum, Jahrbuch d. k. preuß. Kunstsammlungen 24 (1903), 149—178. These textiles are from the early Byzantine period and, to judge from their motifs, of Sasanian origin. So also R. V. RICCIARDI, Mesopotamia 3/4 (1968/69), 402—403, 409—440. See also the fine woollen textiles in the Badische Landesmuseum which are also attributed to Achmim: E. ZIMMERMANN, Alte Textilien: Eine Auswahl aus den Beständen des Badischen Landesmuseums (Karlsruhe 1957), pls. 1—5. Other Egyptian sites have also yielded silks: A. F. KENDRICK, Catalogue, Vol. 2, no. 330: mixture of wool and silk from El-A'zâm; ibid., Vol. 3, no. 808: silk panel from a linen tunic from Lahun; ibid., Vol. 3, no. 842: a strip of silk from Armant; so also ibid., no. 812. Silks are rare in the very substantial collection of textiles from

Achmim and Antinoe in the Hermitage and other Soviet and East European Museums; see L. Kybalová, Coptic Textiles (London/Prague 1967), 39. For finds of textiles including a few silks from graves at Arsinoë see G. Schweinfurth, Zur Topographie der Ruinenstätte des alten Schet (Krokodilopolis-Arsinoe), Zeit. d. Gesell. f. Erdkunde zu Berlin 22.1 (1887), 71—72, who collected 450 items which he presented to the museum in Berlin.

[323] See R. Pfister, Textiles de Palmyre (Paris 1934), 39—60; Idem, Nouveaux textiles de Palmyre (Paris 1937), 35—36. Cf. P. Ackerman, in: SPA 2.689 n. 1, who argues on the basis of iconography that some of the Palmyra silks may come from the Middle East rather than China. See also O. Maenchen-Helfen, From China to Palmyra, Art Bulletin 25 (1943), 358—362 who also favours Pfister's attribution to China, and again R. Pfister, Textiles de Palmyre III (Paris 1940), 40—44, 55—58, where he answers Ackerman. A summary of Pfister's views may be found in R. Pfister, Les soieries Han de Palmyre, RAA 13.2 (1941), 67—77. Cf. the strong criticism of Pfister's attribution of the Palmyra silks to Han China in M. Th. Schmitter, Chine ou Proche Orient?, RA 6 ser. 13 (1939), 73—102. The arguments of Ackerman and Schmitter are rejected by R. J. Charleston, Han Damasks, Oriental Art 1.2 (1948), 63—81, who favours the attribution to China. — For silks from the late Sasanian period see P. Ackermann, A Sasanian Tapestry, BAIPAA 4.1 (1935), 3—4; D. G. Shepherd, Persian Textile of the Sasanian Period, BCMA 38.6 (1951), 145—146 and D. G. Shepherd and W. B. Henning, Zandanījī Identified, in: R. Ettinghausen (ed.), Aus der Welt der Islamischen Kunst: Festschrift für E. Kühnel, (Berlin 1959), 15—40.

[324] R. Pfister and L. Bellinger, The Excavations at Dura Europos. The Textiles, pp. 2—3, 9, 12, 53, nos. 263—264, pls. I, XXVI. As Rostovtzeff notes, the rarity of silk at Dura as compared to Palmyra may be explained by the two different social classes reflected in the excavations at both sites: the upper class tombs at Palmyra and the discarded ordinary clothing from Dura. See M. Rostovtzeff, YCS 5 (1935), 219—220. Silk was also found in the excavations of the Sasanian site at Halabiyeh. On the excavations see J. Lauffray, Deux campagnes de fouilles à Halabiye, CRAI (1946), 687—692, and N. P. Toll, The Necropolis at Halabiè—Zenobia (Preliminary Exploration), SemKond 9 (1937), 11—12; the silks are published by R. Pfister, Textiles de Halabiyeh (Zenobia) (Paris 1951), 39—47 nos. 98—105, pls. XVIII, XXV, XXVII—XXVIII.

[325] Found in the excavations of the nineteenth century together with other Hellenistic textiles. Republished by E. Tolmachoff, Some Ancient Greek Textiles found in South Russia, BNBC 26.2 (1942), 21, 29, 53, pl. 7. The two silk fragments are dated to the early years of the present era. Also N. Toll, Zametki o kitaĭskom shelke na iuge Rossii, Seminarium Kondakovianum 1 (1927), 85—92 and now in: E. I. Lubo-Lesnichenko, Drevnie kitaiskie shelkovye tkhani v vyshikvi, 29, pl. 9. Cf. M. Rostovtzeff, Skythien und der Bosporus, 239, who suggests a late Roman date (but does not mention the silk).

[326] Two sites are known to me: Marienthal, P. D. Rau, Prähistorische Ausgrabungen auf der Steppenseite des deutschen Wolgagebiets im Jahre 1926 (Pokrovsk 1927), 68; and at Shipovo, T. M. Minajeva, Zwei Kurgane aus der Völkerwanderungszeit bei der Station Šipovo, ESA 4 (1929), 197 — in kurgan 2 a silk fragment sewn to leather; ibid., 199 — a silk shirt in kurgan 3; the date is approximately third to fifth centuries. A silk thread was also found in the rich treasure from Glodosi, see A. T. Smilenko, Glodos'ki Skarbi (Kiev 1965), 66 (Ukranian with Eng. rés.). The date of burial is set in the seventh or eighth century.

[327] See M. Hajnal. Die Untersuchungen der Textilien aus dem neuen Mumiengrab in Aquincum, AErt 91 (1964), 194 (Germ. res.), and Idem, Textiles from the Graves of Late Roman Brigetio, AAntHung 13 (1965), 261, figs. 3—4; 264—266, where China is suggested as the place of manufacture.

[328] J. P. Wild, Textile Manufacture, 12, identifying his source as an unpublished report by H. J. Hundt. There are also a number of silks of the late Roman period from burials and

churches. A silk cloth in plain weave from a late Roman burial at Conthey is now in the museum at Zürich; see J. P. WILD, op. cit., 109—110, 117—118. The coffin of St. Paulinus, the former bishop of Trier, who died in Phrygia in 358 and was later buried in Trier, contained silk textiles on both the inside and the outside; see E. M. WIGHTMAN, Roman Trier and the Treveri (New York/Washington 1971), 231—232. The textiles are damasks in yellow, black and purple. One has embroidered on it *[FL]ORENTIA OF(FICINA)*, so J. P. WILD, op. cit., 51 n. 3, who suggests a Syrian workshop. Also on the Trier silks see F.E. SCHNEIDER, Die Krypta von St. Paulin zu Trier, BJ 78 (1884), 171, 185, pl. VII; T. K. KEMPF and W. REUSCH, Frühchristliche Zeugnisse im Einzugsgebiet von Rhein und Mosel (Trier 1965), 71—72, 179 no. 3; J. P. WILD, op. cit., 117—119, nos. 85—88. WILD identifies a textile impression from a fourth century grave D at Tournai as a possible damask. See M. AMAND and I. EYKENS-DIERICKX, Tournai Romain, Diss. Arch. Gandenses 5 (1960), 80 and J. P. WILD, op. cit., 119, no. 89.

[329] Three small textile fragments identified as silk were found in a lead coffin excavated at Holborough, Kent, in 1954, see J. P. WILD, A Roman Silk Damask from Kent, Archaeologia Cantiana 80 (1965), 246—250.

[330] For the later period the list can be lengthened. The silk from a Rhine cathedral of the fifth century is said to be from China, so V. SYLWAN, Eine Chinesische Seide mit spätgriechischem Muster aus dem 5. bis 6. Jahrhundert, OZ n.s. 11 (1935) 22—27; also G. DE FRANCOVICH, La brocca d'Oro del tesoro della chiesa di Saint Maurice d'Agaune nel Vallese e i tessuti di Bisanzio e della Siria nel periodo iconoclastico, in Arte in Europa, Scritti di Storia dell'Arte in onore di Edoardo Arslan (Pavia 1966), 1.133—175.

[331] H. NISSEN, Der Verkehr zwischen China und dem römischen Reiche, Jb. d. Ver. v. Altertumsfreunde im Rheinlande 95 (1894), 5; A. HERRMANN, Lou-lan, 41; L. C. GOODRICH, Archaeology in China, JAS 17 (1957), 14; M. P. CHARLESWORTH, in Johnson Studies, 137 n. 15; J. NEEDHAM, Science and Civilisation, 1.183 n. g; M. BUSSAGLI, The Archaeological Aspect of Asiatic Contacts with Italy, E & W n.s. 1.1 (1952), 14 writes of the Shansi hoard "rare evidence of flourishing trade and exchanges"; J. SCHWARTZ, L'Empire romain, l'Egypte et le commerce oriental, Annales (ESC) (1960), 35—36.

[332] So R. DELBRUEK, Südasiatische Seefahrt im Altertum II, BJ 155/156 (1955/56), 277; the best study of the hoard is: HSIA NAI, Hsien yang Ti-chang wan Sui-mu ch'u-t'u ti Tung ho-ma chin-pii, K'ao-ku (1959), 3, 72—74 who criticises earlier Chinese accounts which cite the hoard as proof of the drain of Roman gold to China. Cf. U. SCERRATO, On a Silver Coin of Traianus Decius from Afghanistan, E & W n. s. 13.1 (1962), 20; M. G. RASCHKE, CN & V 18.2 (1974), 42. The coins were published by S. W. BUSHELL, Ancient Roman Coins from Shansi, Jour. of the Peking Oriental Society 1.2 (1886), 17—28. LIEBERMAN accepted the hoard as a genuine ancient find and produced a detailed catalogue of the Roman pieces, see S. LIEBERMAN, Contact Between Rome and China, 218—226.

[333] A classic example of such is A. CONRADY, Die Chinesischen Handschriften und sonstigen Kleinfunde Sven Hedins in Lou-lan (Stockholm 1920), 181: „*Ich entsinne mich bestimmt, eine (unleserliche) römische Münze aus den Lou-lan Funden bei Himly gesehen zu haben, allein ich habe sie unter dem mir übersandten Material nicht mit Sicherheit identifizieren können und deshalb von einer bildlichen Wiedergabe abgesehen. Auch unter den Münzproben, die Himly hatte photographieren lassen, findet sie sich nicht.*"! This seems to be what HERRMANN's statement in 'Lou-lan', 41 is based on. Nothing is known about the circumstances of the discovery of three coins of Hadrian in northern Manchuria; R. HENNIG, Herodots Handelsweg zu den sibirischen Issedonen, Klio 28.3 (1935), 247 (apparently based on a letter from a Father LICENT-TIENTSIN).

[334] M. A. STEIN, Serindia, 3.1340; IDEM, Ruins of Desert Cathay, 1.140—141. They were thought by SCERRATO to have reached Khotan by the ancient overland trade: U. Scerrato, E & W 13 (1967), 19.

[335] H. H. DUBS, JEH 2 (1942), 38—39; cf. M. G. RASCHKE, CN & V 18.2 (1974), 42—43.

[336] For the monetary reforms of Wang Mang, see H. H. DUBS, Wang Mang and his Economic Reforms, TP 2 ser. 35 (1939/40), 219—265; N. L. SWANN, Food and Money, 204—213, 323—355; LIEN SHENG YANG, Money and Credit in China (Cambridge, Mass. 1952), 22—23, 42.

[337] For his tenuous hold on the Northwest see above, p. 710 n. 192.

[338] For the date of Roman coin hoards in India see above, pp. 665—669.

[339] On this custom see TÊ-K'UN CHENG, Archaeological Studies in Szechwan (Cambridge, Mass. 1967), 142—152.

[340] Coins form part of the inventory of most tombs of the Han period, or later, excavated in China. For coins in the mouths of corpses in the seventh century tombs at Astana, see M. A. STEIN, Innermost Asia, 2.644.

[341] All Roman coin finds, real or alleged, are listed above ns. 332—334.

[342] See on this LIEN-SHENG YANG, Money and Credit, 2, 22, 27, 40—43, who discusses the use of gold in catties (i. e. small ingots) for large transactions in the Han period and its replacement by bolts of silk in the subsequent period. For brief experiment of Han with a silver tin alloy coinage see ibid. 42. For finds of such ingots in the royal tombs of the Former Han at Changsha see HSIA NAI, New Archaeological Discoveries, China Reconstructs (1952) no. 4. 18. Excavations since the Revolution have yielded 146 pieces of gold *chin pan* "coins" produced by the Ch'u state before 278 B.C. but only 13 were a full catty in weight. Up to 1973, 111 *chin ping* gold pieces issued by the Han had been found, but only 42 were a full catty (c. 250 grs.) in weight. The remainder weighed one *liang* or one sixteenth of a catty. See CHIH-MIN AN, The *Chin Pan* and *Chin Ping* Coins — A Study of the Gold Coins of the State of Ch'u and the Han Dynasty and Some Related Problems, KKHP (1973), 2.61—78; Eng. rés. 89—90. See also C. N. TAY, Numismatics and History: A Study of Some Characters in the Han-Shu, MS 26 (1967), 76 and H. GLATHE, The Origin and Development of Chinese Money (Shanghai 1929), 7—10.

[343] See the list in HSIA NAI, Chang-kuo tsui-chin fa-hsien ti Po-ssu Sa-san ch'ao yin-pi, KKHP (1957), 2.49—60, who mentions 4 coins of Shapur II, 5 of Ardashir II and one of Shapur III from excavations at Turfan in 1955; 2 coins of Khusro I from a tomb at Shan-hsien in Honan; one coin of Khusro II found in 1955 in a T'ang tomb near Sian; and an Arab-Sasanian *dinar* of the seventh century from a tomb at Kara-khoja; IDEM, Ch'ing-hai Hsi-ning ch'-t'u ti Po-ssu Sa-san-ch'ao yin-pi, KKHP (1958). 1.105—110. NSIA NAI published 76 further Sasanian silver coins, all of Peroz I, found at Hsi-ning in Ching Hai and adduces documentary material from the fourth to sixth centuries to support his view that a major route of international commerce went past Hsi-ning. For a silver drachm of Peroz I from a grave at Hsi-an-fu see KKHP (1959), 1. KKHP (1959), 7 reports the discovery of a silver drachm of Khusro II from a T'ang tomb northwest of Shih-chia chuang in Hopei. The preliminary report of the 1966—1969 excavations at Turfan mentions that Sasanian silver coins were frequently found in the mouths of corpses but no details are given; see Sinkiang-Uighur Autonomous Region Museum, Report on the Ka-la and Cho-ku tombs in Turfan, Wen-wu (1972), 1.10,17 (in Chinese). Two further hoards have recently been reported; see CHIEH-YÜAN CHU and PO CH'IN, Shensi Ch'angan ho Yaohsien fa hsien ti Po-ssu Sa-san ch'ao yin-pi, K'ao-ku (1974), 2.126—132, who publish seven silver drachms found in a silver box in a pagoda of an old monastery at Tien Tzu Yü (6 Khusro II and 1 Boran) and 3 silver drachms from a Buddhist monastery in Yaohsien (1 Khusro I, 2 Peroz). The latter two finds are discussed in R. C. HOUSTON, A Note on Two Coin Hoards Reported in *Kao Ku*, ANSMN 20 (1975), 153—160. A silver drachm of Khusro II was found in the great treasure at Hochiatsun near Sian in 1970. HSIA NAI, Archaeological Work during the Cultural Revolution, in: New Archaeological Finds in China^2 (1973), 4—5. Earlier finds of Sasanian silver from Astana include one of Khusro I and one of Hormizd IV from grave I.3 and another silver drachm from another grave, see M. A. STEIN, Innermost Asia, 2.646—648, 995 pl. CXX. On finds of Persian silver coinage in China see also LIEN-SHENG YANG, Notes on Maspero's Les documents chinois

de la troisième expédition de Sir Aurel Stein en Asie Centrale, HJAS 18 (1955), 152. Although Sasanian drachms are more numerous than contemporary Byzantine *solidi* in China, the former appear, to the best of my knowledge, to be considerably less numerous than Byzantine coins in Siberia and Eastern Europe; see the find of 18 late Sasanian coins from the cemetery of Bolshoi Visim in the Urals in D. E. Kharitonov, Nakhodka vostochnykh monet V—VIIIvv. v. Prikam'e, in: Na Zapadnom Urale (Perm 1964), 4.170—176; cf. the list of Sasanian coins found in Eastern Europa in V. V. Kropotkin, Novye nakhodki sasanidskikh i kuficheskikh monet v Vostochnoi Evrope, NE 9 (1971), 76—97.

[344] Hsia Nai, KKHP (1959), 3.67—68, pls. I.1—4 reports the discovery of a *solidus* of Justin II in a tomb near Sian in 1953 and another unidentified *solidus* in a second tomb near the same city. Cf. the incorrect attribution of the former coin to Phocas in L. C. Goodrich, JAS 17 (1957), 14. In 1970 the giant treasure found at Hochiatsun near Sian yielded a *solidus* of Heraclius, a Sasanian drachm (above) of Khusro II and 5 Japanese silver coins minted in A.D. 708. See Hsia Nai, in: New Archaeological Finds in China^{2} (1970), 4—5. The hoard was probably buried c. A.D. 756.

[345] M. A. Stein, Innermost Asia, 2.644, pl. CXX mentions three gold coins from the seventh century tombs at Astana (I.3; 5 and 6): an imitation *solidus* of Justinian and two thin imitation *solidi* of the same ruler struck only on the observe.

[346] T. D. Forsyth, On the Buried Cities in the Shifting Sands of the Great Desert of Gobi, PRGS 21 (1877), 28, 37—38 reported the finding of gold coins of Antimachus, Constans II, Justin and Theodosius. G. Montell, Sven Hedin's Archaeological Collections from Khotan, BMFEA 10 (1938), 94—95, pl. VII. 5, 7, and 8 describes three gold barbarized imitations, one struck on the reverse only of sixth century *solidi*. An imitation *solidus* with a double obverse purchased by Bishop White in Lo-yang: see W. C. White, Byzantine Coins in China, Bull. of the Royal Ontario Museum of Archaeology 10 (1931), 9—10. The coin may be as late as A.D. 1000. See J. H. Iliffe citing a letter from E. T. Newell, ibid., 10—11. The coin was also published with a photograph of the rubbings of both obv. and rev. in W. C. White, Byzantine Coins in China, ChJour 15.1 (1931), 10—12.

[347] The excavations in 1966—1969 yielded one *solidus* and one imitation from tombs TAM 92 and 138. See Sinkiang-Uighur Autonomous Region Museum, Wen wu (1972), 1.10—11, pl. 6—7. In the West imitations of *solidi* struck only on the obverse have also been found, e. g., an imitation *solidus* of Constantine I in the museum at Kasanlyk, Bulgaria, T. Gerasimov, Ednostranna zlatna moneta na Konstantin Veliki, Isvestiia na Arkheologicheskiia Institut, B'lgarska Akademiia na Naukite 20 (1955), 583.

[348] Hsia Nai, in: New Archaeological Finds in China^{2} (1973), 4—5.

[349] See Sui-shu 24.226: "in the prefectures of the Ho-hsi area [i. e. to the west of the Huang Ho] people sometimes used gold and silver coins from the Western Regions and the government did not prohibit [their circulation]." See E. Balazs, Le traité économique du Souci-chou, TP 2 ser. 42 (1953), 178. For date of the 'Sui-shu', see W. Hang, The T'ang Bureau of Historiography before 705, HJAS 23 (1960/61), 93—107. Discussed by Lui Mau-Tsai, Kutscha und seine Beziehungen zu China vom 2. Jh. v. bis zum 6. Jh. n. Chr. (Wiesbaden 1969), 19; D. C. Twitchett, Financial Administration under the T'ang Dynasty, 2nd ed. (Cambridge 1970), 71, 295 n. 39. A document from the T'ang period published by Maspero (no. 295 [A.D. 669]) mentions payments in silver coins (i. e., non-Chinese currency). See Lien-sheng Yang, HJAS 18 (1955), 150—152.

[350] A number of such finds are known from Central Asia at Dzhambul, Kazakh S.S.R., in 1938 a barbarized imitation *solidus* of Justinian I was found, V. V. Kropotkin, Klady Vizantiiskikh Monet na Territorii S.S.S.R. (Moscow 1962), no. 481; a *solidus* of Heraclius was found in 1931 at Issyk-Kul, Kirgiz S.S.R., V. V. Kropotkin, op. cit., no. 482; at Sokuluk barbarized *solidi* of the fifth century and barbarized bracteates of Heraclius and Constantine IV Pogonatos, V. V. Kropotkin, op. cit., no. 483; at Bairam-Ali, Turkmen S.S.R. a coin of Justinian I, V. V. Kropotkin, op. cit., no. 484; at Khadzhioban, Uzbek

S.S.R. a coin of Maurice was found, V. V. Kropotkin, op. cit., no. 485; at Samarkand in 1934 a barbarized imitation *solidus* of Justinian I, V. V. Kropotkin, op. cit., no. 486; at Pendzhikent in 1952 a gold Byzantine bracteate of the fifth to sixth centuries. The reverse shows Romulus and Remus being nursed by a she-wolf, see A. M. Belenitskii, Arkheologicheskie raboty v Piandzhikente, KSIIMK 55 (1954), 47, pl. 11; Idem, Obshchie rezul'taty raskopok gorodishcha drevnégo Pendzhikenta (1951—1953 gg.), in: MIA 66 (Moscow/Leningrad 1958), 135, pl. 33.3 and V. V. Kropotkin, op. cit., no. 483a, who does not give a complete bibliography; cf. also another gold bracteate found at Pendzhikent in 1950 in B. Ia. Staviskii, O. G. Bol'shakov and E. A. Monchadskaia, Piandzhikentskii nekropol', in: MIA 37 (Moscow/Leningrad 1953), 74, pl. 9; cf. B. Brentjes, Romulus und Remus mit der Wölfin aus Nordtadshikistan, CAJ 15.3 (1971), 184—185, who discusses a sixth century wall-painting from Kolai-Kachkacha, Tadzik S.S.R., which also shows Romulus and Remus being nursed by a she-wolf. In 1946 at Khiat, Tadzik S.S.R. a gold bracteate of Heraclius and Heraclius Constantine was found; V. V. Kropotkin, op. cit., no. 483b; in 1958 a barbarized gold coin imitating a type of Heraclius and Heraclius Constantine was found at Andizhan, Uzbek S.S.R., V. V. Kropotkin, op. cit., no. 484a; in 1940 a coin of Tiberius III was found at Chilek, Uzbek S.S.R. For further literature on the above finds see V. V. Kropotkin, Novye nakhodki vizantiiskikh monet na territorii SSSR, VV 26 (1965), 186 no. 136 = 483; 131 = 486a. For Byzantine coins from the Altai see the comments of R. N. Frye, Notes on the Early Coinage of Transoxiana, NN & M 113 (1949), 8. Byzantine and Bosporan coins found in the Altai were published by S. V. Kiselev, Nakhodka antichnykhi vizantiiskikh monet na Altae, VDI (1940), 3/4. 360—363.

[351] For the significance of imitation coinage, see below p. 1036, n. 1583. None of the phenomena described above (i. e. thin imitations, the use of only one side of the flan, see above n. 345) is unique to Central Asia. For a gold imitation of Constantine I struck on the observe only see T. Gerasimov, Ednostranna zlatna moneta na Konstantii Veliki, IAI 20 (1955), 583. Contemporary practice in the provision of Charon's obol further west suggests that all conclusions must be drawn with caution. For example, in Lombard burials coins which had long been out of circulation appear to have been used, see M. Brozzi, Monete bizantine in tombe longobarde, QTNAC (1974), 219—223. Coins or flans could also be deliberately produced for burial in the grave; see, for example, the explanation for the blank flans in the Sutton Hoo hoard in P. Grierson, The Purpose of the Sutton Hoo Coins, Antiquity 44 (1970), 14—18. The thin gold and silver foil impressions of Byzantine *solidi* (seventh and eighth centuries) found in graves at Kislovodsk are also clearly another instance where imitations were produced for sepulchral use rather than for circulation; see E. V. Rtveladze and A. P. Runich, Nakhodki indikatsii vizantiiskikh monet vblizi Kislovodska, VV 32 (1971), 220—222, fig. 1.

[352] A Chinese bronze of uncertain provenience bears a very heavily barbarized Greek inscription which may have been copied from a Parthian coin; see O. Maenchen-Helfen, A Parthian Coin Legend on a Chinese Bronze, AM n. s. 3.1 (1952), 1—6), figs. 1—4. The piece discussed came originally from the collection of Cheng Wen-ch'o.

[353] It is interesting that O. Maenchen-Helfen, AM n. s. 3.1 (1952), 1, suggests that all except one example of this type of coin are modern imitations of a single original. He notes that Bishop White purchased such a coin in Kaifengfu, Honan, which was said to have been found at Lo-yang. Five or six other examples are also known. But recently a Chinese archaeologist published a study of what are termed lead and bronze imitations of the catty-weight *chin ping* gold coins of the Han period. Chih-min An lists thirteen such coins with barbarized Greek legends which he suggests were copied from Parthian coins of the first and second century (he makes no reference to Maenchen-Helfen's study). The purpose of the imitations is said to be primarily sepulchral. The view that these are all modern imitations must be reviewed since in 1965 such a coin was found at Han-cheng, Sian. Other bronze *ping* coins are said to have been found at Kuang-tung, Kuang-hsi, at Chanshain in Hunan and at Lo-yang; see Chih-min An, KKHP (1973), 2.81—83.

[354] O. Maenchen-Helfen, AM n. s. 3.1 (1952), 5, suggests a terminus ante quem of the second half of the second century of our era. Cf. Chih-min An, KKHP (1973), 2.81, who attributes the coins to the first or second centuries or even later.

[355] See Procopius, De Bell. Goth. IV.17; Theophanes = FHG IV p. 270 after A.D. 568. The introduction of silk is the subject of much modern speculation; e. g., see J. B. Bury, History of the Later Roman Empire (London 1923), 2.330—332; R. Hennig, Die Einführung der Seidenraupenzucht ins Byzantinerreich, BZ 33 (1933), 295—312; R. S. Lopez, Silk Industry in the Byzantine Empire, Speculum 20.1 (1945), 11—12; K. Hannestad, Les relations de Byzance avec la Transcaucasie et l'Asie Centrale aux 5ᵉ et 6ᵉ siècles, Byzantion 25/27.2 (1955/57), 421—456; N. V. Pigulevskaia, Byzanz auf den Wegen nach Indien (Berlin 1969), 158—160; Hiroshi Wada, Serinda, passim.

[356] Procopius, De Bell. Goth. IV.17. This is the only reference to Serinda in any ancient source. Much controversy has surrounded the word. The reference to the silk trade in Ceylon in Cosmas Indicopleustes II.45 (Wolska-Conus): Αὕτη δὲ ἡ χώρα τοῦ μεταξίου ἐστὶν ἐν τῇ ἐσωτέρᾳ πάντων 'Ινδίᾳ, κατὰ τὸ ἀριστερὸν μέρος εἰσίοντων τοῦ 'Ινδικοῦ πελάγους, περαιτέρω πολὺ τοῦ Περσικοῦ κόλπου καὶ τῆς νήσου τῆς καλουμένης παρὰ μὲν 'Ινδοῖς, Σελεδίβα, παρὰ δὲ τοῖς Ἕλλησι, Ταπροβάνη, Τζίνιστα οὕτω καλουμένη κυκλουμένη πάλιν ἐξ ἀριστερῶν ὑπὸ τοῦ 'Ωκεανοῦ, ὥσπερ καὶ ἡ βαρβαρία κυκλοῦται ἐκ δεξιῶν ὑπ' αὐτοῦ (cf. also on this passage J. Duncan M. Derrett, The History of Palladius on the Races of India and the Brahmans, C&M 21.1/2 [1960], 77—78) led some scholars to locate Serinda there. So E. O. Winstedt, The Christian Topography of Cosmas Indicopleustes (Cambridge 1909), 352; A. Herrmann, RE 4A 2 (1923), 1728, s. v. Serinda. Others suggest Cochin-China; so J. B. Bury, LRE, 2.332. n. 1. Most scholars favour Khotan, so H. Yule, Cathay and the Way Thither, 1². 24; F. v. Richthofen, China 1.529, 550; M. A. Stein, Ancient Khotan, 134; cf. E. Chavannes, Documents sur les Tou-kiue (Turcs) occidentaux (Paris 1900), 233 n. 1.; R. Hennig, BZ 33 (1933), 297—309. But in view of what we know about the westward spread of silk production Sogdiana or some other part of Central Asia west of Khotan seems more likely. So already H. Silbermann, Die Seide (Dresden 1897), 48, for Sogdiana as Serinda, see also N. V. Pigulevskaia, Byzanz, 159—160. Cf. most recently Hiroshi Wada, Serinda, 81—85, who proposes the southeastern shore of the Caspian Sea as the location of Serinda. He makes the point that silkworms are only dormant over the winter and that they can only be transported for 90 to 180 days. (For the later importance of the silk industry in this area, see above p. 721, n. 270.)

[357] See N. V. Pigulevskaia, Byzanz, passim.

[358] See the sources collected below, p. 1066, n. 1732.

[359] The embassies fall into the second half of the sixth century after A.D. 568. R. Hennig, BZ 33 (1933), 310—311; H. W. Haussig, Theophylakts Exkurs über die Skythischen Völker, Byzantion 23 (1953), 276—287; K. Hannestad, Byzantion 25/27.2 (1955/57), 455—456; G. Moravcsik, Byzantinoturcica, I. Die byzantinischen Quellen der Geschichte der Türkvölker² (Berlin 1958), 70—72; N. V. Pigulevskaia, Byzanz, 165—171, who stresses the trade in silk as the major motivation for the embassies.

[360] Details about the first such occasion are given by the trilingual inscription of Shapur I from Naqsh-i Rustam (see below p. 1057, n. 1705) which relates that after Philip became emperor, he ransomed the Romans captured by the Sasanians in the victorious campaign of A.D. 244; cf. line 9: καὶ τ[ῶ]ν̣ ψ[υ]χῶ̣ν α̣[ὐτ]ῶ̣ν ἀντίτειμ[α] π̣[ε]ν̣τ̣ακοσί̣α̣ν χειλιάδα δηναρίων ἡ̣μεῖν ἔδοτο καὶ εἰς φόρους ἡ̣μεῖν ἔστη· A. Maricq, Syria 35 (1958), 309. The reference here is to 500,000 *aurei* as has been pointed out by J. Guey, Autour des Res Gestae Divi Saporis, I: Deniers (d'or) et deniers d'or (de compte) anciens, Syria 38 (1961), 261—267. So also T. Pekáry, Le tribut aux Perses et les finances de Philippe l'Arabe, Syria 38 (1961), 275. On the possibility that this sumwas paid as an annual tribute to the Sasanians, see W. Ensslin, Zu den Kriegen des Sassaniden Schapur I, SBAW

(1947), 96; A. T. OLMSTEAD, The Mid-Third Century of the Christian Era, CPh 37.3 (1942), 256 and T. PEKARY, Syria 38 (1951), 278—279. Regular payments of gold became more frequent in the fourth and fifth centuries. In the peace treaty of A.D. 363 the Romans agreed to contribute financially to the repair and maintenance of the Sasanian fortifications on the 'Caspian Gates'. The same condition appears in a treaty of A.D. 442. As a condition for the truce of A. D. 545 Justinian agreed to pay a large sum of gold to Khusro I. Again in 577 Tiberius agreed to pay Khusro I 30,000 *solidi* a year for three years in return for a truce. See on these treaties J. B. BURY, LRE 2.6, 112; A. H. M. JONES, The Later Roman Empire 284—602 (Oxford 1964), 138, 308. Sporadic payments of tribute in gold coins by the Byzantine Empire are recorded as late as the fifteenth century, when the Ottoman Turks were the recipients; see O. ILIESCU, Le montant du tribut payé par Byzance à l'Empire Ottoman en 1379 et 1424, RESEE 9.3 (1971), 427—432. But late Byzantine coins and their imitations are rare in Central Asia; cf. a twelfth-century gold imitation Byzantine coin found in 1958 at Andizhan, V. I. KOZENKOVA, Novyi istochnik dlia izucheniia sviazei Vizantii i Srednei Azii, SA (1967), 1, 266—270; more generally on the circulation of coins in the Mongol-ruled areas of Central Asia in the thirteenth century see E. A. DAVIDOVICH, Denezhnoe khozyaiistvo i chastichnoe vosstanovlenie torgovli v Srednii Azii posle mongolskogo nashestviia XIIIv (Po numizmaticheskim istochnikam), NAA 6 (1970), 57—67.

[361] See R. GÖBL, Aufbau der Münzprägung, in: F. ALTHEIM und R. STIEHL, Ein Asiatischer Staat: Feudalismus unter den Sasaniden und ihren Nachbaren (Wiesbaden 1954), 96—98, 111. Sasanian silver coinage may also have been influenced by contemporary Roman practice. It has been noted that the early Sasanian rulers heavily debased their coinage, while in later periods, such as the reign of Peroz, when severe strains were placed on the Sasanian Empire, there is no significant debasement. On the debasement of Sasanian silver, see A. A. GORDUS, Non-destructive Analysis of Silver Coins: a Study of Sasanian and Umayyad Coinage, BSFN 25.6 (June 1970), 543. Thus see the high quality of late fourth century Roman silver coins. Chemical analysis of 11 coins showed a variation of 89.5 to 98.2% silver; see the results of R. REECE, Some Analyses of Late Roman Silver Coins, NC 7 ser. 3 (1963), 341—342.

[362] So R. GÖBL in: F. ALTHEIM und R. STIEHL, Ein Asiatischer Staat, 96—98, 111, 115, 119. But GÖBL cites no examples of such finds of Byzantine *solidi* in the Sasanian Empire. They are, in fact, rare in excavations. A *solidus* of Constans II struck at Constantinople in A.D. 651—659 has recently come to light in the excavation of a Sasanian level at Siraf; D. WHITEHOUSE, Siraf: A Sasanian Port, Antiquity 45 (1971), 263 (also a bronze coin of Theodosius I was found in the fill of the Great Mosque at Siraf: D. WHITEHOUSE, Excavations at Siraf: Fourth Interim Report, Iran 9 [1971], 3, pl. VIIb.) A *solidus* of Heraclius and Heraclius Constantine was found in the excavations at Qasr-i Abu Nasr, G. MILES in: R. N. FRYE (ed.), Sasanian Remains from Qasr-i Abu Nasr (Cambridge, Mass. 1973), 32 no. 44. Finds are more frequently made in Armenia and in the Caucasus. KROPOTKIN lists a number of such finds (I omit all hoards later than the seventh century): at Dvin in 1955 31 *solidi* of Justin II, Phocas and Heraclius with Heraclius Constantine were found: V. V. KROPOTKIN, Klady Vizantiiskikh monet, no. 366; a *solidus* of Heraclius is reported from Ulukhanlu, V. V. KROPOTKIN, op. cit., no. 383; at Gvankiti a *solidus* of Constantine IV was found, V. V. KROPOTKIN, op. cit., no. 396; at Didi-Chkoni a *solidus* of Heraclius with Heraclius Constantine was found, V. V. KROPOTKIN, op. cit., no. 402; a *solidus* of Phocas was found at Dranda, V. V. KROPOTKIN, op. cit., no. 408; 23 *solidi* of Maurice were found at Nokalakevi, V. V. KROPOTKIN, op. cit., no. 428; at Oka a gold coin of Constantine was found, V. V. KROPOTKIN, op. cit., no. 430a; and three *solidi* of Justinian II at Pitsunda, V. V. KROPOTKIN, op. cit., no. 436. Other finds have been made since the publication of KROPOTKIN's list; e. g., a *solidus* of Justin I was excavated in a kurgan at Uch-tepe, A. A. IESSEN, Raskopi bol'shogo kurgana v urochishche Uch-tepe, in: MIA 125 (Moscow/Leningrad 1965), 179—180, pl. 32. For a possible Sasanian imitation in Syria of the *solidi* of Phocas, see J. LAFAURIE, Imitation d'un *solidus* de Phocas frappée par les Sassanides, BSFN 14.10 (Dec. 1964), 412—415. See also a bronze imitation with a

Pahlavi legend of a coin of Anastasius I (479—518) found in the 1926/27 excavations at Susa, F. M. Allotte de la Fuÿe, Inventaire sommaire des monnaies recueillies à Suse pendant la campagne 1926—1927, in: Mémoires de la Mission Archéologique en Perse 20 (Paris 1928), 52—54. From the same area, a *follis* of Tiberius II and a *solidus* of Heraclius were found in the excavations at Iṣṭakhr, see G. C. Miles, Excavation Coins from the Persepolis Region, NN & M no. 143 (New York 1959), 43 nos. 176—177, pl. V. A collection of Byzantine bronze coins purchased at various times in Baghdad is published by E. J. Prawdzic-Golenberski and D. M. Metcalf, The Circulation of Byzantine Coins on the South-Eastern Frontiers of the Empire, NC 7 ser. 3 (1963), 83 n. 3, 90—92, but their assumption that all of these coins came from local finds in Mesopotamia is of little value.

[363] The date of the movement of the Hephthalites and Chionites into Sogdiana and Bactria has been set just after the middle of the fourth century, see R. Ghirshman, Les Chionites-Hephtalites, MDAFA 13 (Cairo 1948), 82—85; cf. H. W. Haussig, Byzantion 23 (1953), 327—328; F. Altheim, Geschichte der Hunnen I.35—36. The earliest record of the appearance of these people on the Eastern frontier of the Sasanian Empire is found in Amm. Marc. XVI.9.4 (who notes in regard to the peace negotiations with the Persians in A.D. 356: *Dumque ad Chionitas et Eusenos haec scripta mittuntur, in quorum confiniis agebat hiemem Sapor, tempus interstitit longum*).

[364] E. g. in 359 when Shapur II invaded Mesopotamia he was accompanied by the Chionite king, Grumbates, Amm. Marc. XVIII.6.22. In 502 when Kavad invaded Mesopotamia he was accompanied by Hephthalite mercenaries, Procopius, De Bell. Pers. I.7,8; see R. Ghirshman, Les Chionites-Hephtalites, 92—93.

[365] In the fifth century several wars broke out between the Hephthalites and the Sasanians. In 465 Peroz became involved in fighting on this frontier. He and his son, Kavad, were captured by the Hephthalites and a large ransom was paid. In a second war against these people in 484 Peroz was killed. His successor, Kavad (488—531), relied on the Hephthalites to restore him to his throne (496—498) after the Sasanian nobles had ousted him; R. Ghirshman, Les Chionites-Hephthalites, 89—90; F. Altheim, Geschichte der Hunnen, 2.259—260. Also large numbers of Byzantine gold and silver coins have been found in Caucasia and Transcaucasia and Soviet scholars attribute these to Byzantine-Sasanid wars rather than to commerce; see K. V. Golenko, Klad Vizantiiskikh monet VII v., naidennyi bliz Anapy, Vizantiiskii Vremennik 26 (1965), 162—165. The Byzantine silver coins of the fifth to sixth centuries considerably outnumber the gold: e. g., in the excavations at Dren-Kala a *follis* of Anastasius I was found, V. V. Kropotkin, Klady Vizantiiskikh monet, no. 348 (cf. subsequently A. C. Iakoson, Arkheologicheskie issledovaniia na gorodishche Oren-Kala v 1957g. in: MIA 133 (Moscow/Leningrad 1965), 24 and E. A. Pakhomov, Monety iz rashopok gorodishcha Oren-Kala, in: ibid., 90); in 1947 115 Byzantine silver coins of Heraclius with Heraclius Constantine were found at Dvin, V. V. Kropotkin, op. cit., no. 364; at the same site in 1955 136 Sasanian drachms of Khusro I, Hormizd IV, and Khusro II were found together with 84 Byzantine silver coins of Heraclius with Heraclius Constantine, V. V. Kropotkin, op. cit., no. 365; in 1939 a hoard of silver coins of Heraclius with Heraclius Constantine was found at Erevan, V. V. Kropotkin, op. cit., no. 367; a similar find was made at Igdir, V. V. Kropotkin, op. cit., no. 370; a *follis* of Justinian I was found at Kirovakan, V. V. Kropotkin, op. cit., no. 372; a hoard of 45 silver coins of Heraclius with Heraclius Constantine and of Constans II was found at Kosh, V. V. Kropotkin, op. cit., no. 373; in 1956 at Leninakan a hoard of Sasanian and Byzantine silver was found, 92 drachms of Kavad I to Ardashir III and 16 Byzantine coins of Heraclius with Heraclius Constantine and of Constans II, M. I. Kamera and K. V. Golenko, Leninakanskii klad sasanidskikh i vizantiiskikh monet (1956g.), Vizantiiskii Vremennik 19 (1958), 172—193 = V. V. Kropotkin, op. cit., no. 375; at Atotsi in 1956 a silver coin of Constans II was found, V. V. Kropotkin, op. cit., no. 392a; in 1908 a hoard of 20—30 silver coins of Heraclius with Heraclius Constantine was found at Echmiadzin, V. V. Kropotkin, op. cit., no. 387, and in 1902 at Mtskheta 9

silver coins of Heraclius with Heraclius Constantine were found, V. V. KROPOTKIN, op. cit., no. 425a. Thus also the considerable increase in the import of *solidi* into South Russia in the fourth and fifth centuries is attributed to raids and the payments of ransoms or of mercenaries; see L. N. KAZAMANOVA and V. V. KROPOTKIN, Podrazhaniia rimskim zolotym monetam II—III vv. n. e., VDI (1964), 1. 148.

[366] For the supposed ancient East-West route across the steppe see above p. 692, n. 67.

[367] For coin finds from the Scythian settlement at Kamensky see B. N. GRAKOV, Nakhodki grecheskikh monet na Kamenskom gorodishche, KSIA 89 (1962), 38—41 reporting on a copper coin of Philip II and another of Alexander the Great found there. Coins from the Bosporan cities also reached those Scythian areas which traded extensively with the cities of the Bosporus (see above p. 687, n. 44 for major concentration of non-numismatic finds.): e. g. 91 copper coins from Panticapaeum and Phanagoria were found in the settlement of Elizavetinskoe, see N. V. ANFIMOV, Denezhnoe obrashchenie na Elizavetinskom gorodishche — emporii Bospora na Srednei Kubani, VDI (1966), 2, 157—165. At Tanais itself, which was the centre for trade up the Don, coins are rare before the present era, see D. B. SHELOV, Denezhnyi rynok Tanaisa, ZOAO 34 (1960), 133—134.

[368] During the second and first centuries of our era the Sarmatians penetrated and displaced the Scythians in the Dnieper and Bug River Valleys. In the lower Dnieper only the Scythian hill forts at Zolotaia Balka, Lybimovskoe and Gavrilskoe held out until the early second century when they, too, were abandoned; see M. V. SHCHUKIN, K Istorii Nizhnego Podneprov'ia v pervye veka nashei ery, AS 12 (1970), 54—67. A fourth or third century date for the domination of the steppe region by the Sarmatians has been suggested by D. A. MACHINSKII, O Vremeni Pervogo Aktivnogo Vystupleniia Sarmatov v Podneprov'e po sindetel'stvam Antichnykh Pis'mennykh Istochnikov, AS 13 (1971), 42—54.

[369] Roman coins are, in fact, extremely rare in the cities on the northern coast of the Black Sea. Here the dominant coinage was the local civic issues and the issues of the Bosporan kingdom. For a hoard of 78 *antoniniani* found at Kerch and the problem of the circulation of such coins in the Pontic cities, see K. V. GOLENKO, Le Trésor d'*antoniniani* de Kertch, RN 6 Ser. 15 (1973), 290—299; also N. Z. KUNINA, Kerchenskii klad serebrianykh rimskikh monet, AIB 2 (1962), 329—342 (the original publication of the 1954 find). Bosporan coins appear not to have circulated widely in the steppe area beyond the boundaries of the kingdom. But cf. copper coins of Panticapaeum and Phanagoria found in the Kuban Valley at Elizavetinskoe, N. V. ARTIMOV, VDI (1966), 2, 157—165; also V. N. RIABTSEVICH, Nakhodki antichnykh monet na territorii Belorussi, in: Voprosy Istorii Sbornik stati molodykh uchenykh i aspirantov Belorusskii Universitet (Minsk 1968), 187—192, who notes that among the 32 finds of Roman coins in the area there were only 2 Bosporan issues.

[370] Cf. V. V. KROPOTKIN, K voprosu o razvitii tovarnogo proizvodstva i denezhnykh otnoshenii u plemen Cherniakhovskoi kul'tury v III—IV vv. n. e., in: Leninskie idei v izuchenii istorii pervobytnogo obshchestva, rabovladeniia i feodalizma (Moscow 1970), 146—160. The danger here lies in the use of terminology. The existence of a system of barter in a supply and demand relationship is, of course, in this case only an assumption since gifts, tribute and plunder were possibly equally important means of acquisition. For the broad definition of 'market' see K. POLANYI, in: Trade and Market in Early Empires, 266—299; cf. S. COOK, Obsolete 'Anti-Market' Mentality: A Critique of the Substantive Approach to Economic Anthropology, American Anthropologist 68 (1966), 323—338. Also G. DALTON, Economic Anthropology and Development (New York/London 1971), 128—129, 144—155, who discusses the general problems of exchange markets in peripheral market economies and the role of money in such societies.

[371] A list of finds up to 1960 may be found in V. V. KROPOTKIN, Klady rimskikh monet na territorii SSSR (Moscow 1961). For stray finds in the steppe see, for example, a *sestertius* of Vespasian found at Dergachi, ibid. no. 201; also from the same site a find of Roman

silver of Hadrian and Antoninus Pius, ibid., no. 202. In 1900 a large hoard of third-century gold and silver coins were found in a kurgan at Krasnyi Kut, ibid., no. 205; at the village of Pokrivskaia in 1902 a copper issue of Caracalla from Alexandria was found, ibid., no. 210; a Roman Republican *denarius* of C. Renius (the date given by M. CRAWFORD, RRC 1. no. 231, is 138 B.C.) was found at Povnoe, ibid., no. 211; the same site also yielded a *denarius* of M. Tullius (cf. RRC 1. no. 280 with a date of 120 B.C.), ibid., no. 212; at Tersa a *denarius* of Tiberius was found, ibid., no. 218; at Kamyshin a gold coin of Vespasian was found, ibid., no. 229; at Shil'nikovo there was found in 1875 what appears to be a single hoard of *denarii* (Vespasian to Severus Alexander), ibid., no. 249. All of these finds come from the Volga area. There are also a few scattered finds on the upper reaches of the Don: 40 *denarii* (Trajan to Commodus) were found at Elets, ibid., no. 175; in the district of Riazhskii Roman silver coins of the second century were found, ibid., no. 195.

[372] On Cherniakhov culture see M. Iu. BRAICHEVSKII, Rims'ka moneta na territorii Ukraini (Kiev 1959), 20—25.

[373] BRAICHEVSKII argues that, since Roman coins have been found in settlements of the Cherniakhov Culture (e. g. at Raiki, BRAICHEVSKII, op. cit., nos. 128—129; Prazhiv, ibid., nos. 139—140; Golubivka, ibid., no. 148; Luka-Vrublivets'ka, ibid., nos. 832—835; Veliki Viknini, ibid., no. 679; Neslukiv, ibid., no. 424 and Ivankivtsi, ibid., nos. 841—844), in burial sites (e. g. at Avgustinivka, ibid., nos. 188—190; Barakhtians'ka Vil'shanka, ibid., no. 210; Cherniakhov, ibid., nos. 228—229 and Kriven'ke, ibid., nos. 749—750) and in pottery vessels produced by that culture, the Eastern Slav tribes must have used such coins in their own transactions, see M. Iu. BRAICHEVSKII, Rims'ka moneta, 19—34.

[374] Almost all of the Roman coins found in the U.S.S.R. occur in hoards in the area of the Dnieper and its tributaries or to the west thereof, see V. V. KROPOTKIN, Klady rimskikh monet, maps on pls. 24—27. It is this area of the Ukraine which has continued to produce new Roman hoards: e. g., M. N. DRAGUNOVA, Klad rimskikh monet izs. Matiushi Kievskoi oblasti, NS 2 (1965), 202—205: 30 *denarii* (Nero to Commodus) found in 1963 in Matiushi; V. K. PUKHTINSKII, Denarii Avgusta, naidennyi v gor. Nezhine, VDI (1966), 2, 174—175: a *denarius* of Augustus found in 1957 (cf. KROPOTKIN, op. cit., nos. 1297—1299 for earlier Roman finds at that site.); V. V. KROPOTKIN, Klad rimskikh denariev naidennyi v s. Podlesnovke (Samskaia obl.), VDI (1965), 1. 136—139: 35 *denarii* (Trajan to Commodus) found in 1961 at Podlesnovka; V. V. KROPOTKIN and A. F. PROKOFIEV, Voitovskii klad rimskikh monet I—II vv. Cherkasskaia oblast, VDI (1972), 2. 174—178: 51 *denarii* (Domitian to Commodus) found at Voitovo in 1968; V. IA. KAPLAN, Staro-Romanovskii klad rimskikh denariev I—II vv. n. e., NE 10 (1972), 108—128: 259 *denarii* (Vespasian to Septimius Severus) found in 1964 at Staraia Romanovka near Novograd-Volyinski (note especially V. V. KROPOTKIN, K publikatsii klada rimskikh monet iz s. Staraia Romanovka, NE 10 [1972], 126—127, who argues that such second century hoards were buried in the third and fourth centuries after circulating in the Ukraine). Even more numerous are the finds of Roman coins of the second to fourth centuries in the region of Moldavia. On the problem of the use of Roman coins by the Sarmatian tribes in this area, see V. MIHAILESCU-BIRLIBA, Circulatia monetara la triburile libere de la rasarit de Carpati (sec. II—IV), MAAMP 2 (1970), 281—344 (Eng. res.), who suggests that about 15,000 Roman coins have been found.

[375] So F. HIRTH, Ch. St., 1.62—67; E. H. WARMINGTON, Commerce², 271—272; A. HERRMANN, Lou-lan, 133—140; C. G. SELIGMAN, The Roman Orient and the Far East, Antiquity 11 (1937), 15—20; O. H. BEDFORD, The China Journal, 28.5 (1938), 212—215; M. CARY, Maës, qui et Titianus, CQ (1956), 130 n. 5; K. HANNESTAD, Byzantion 25/27.2 (1955/57), 451; J. I. MILLER, Spice Trade, 211.

[376] See above p. 719, n. 253 and below ns. 379 and 383—384. Typical is the statement in F. BERGMAN, Archaeological Researches, 150 (in regard to the glass from Lou-lan): "All the glass objects are certainly importations from the eastern part of the Roman Empire."

[377] For the 'Pei-shih' and 'Wei-shu' passages see F. HIRTH, China, 230—232. The three passages are discussed by F. HIRTH, Zur Geschichte des Glases in China, in: Ch. St. 1.62—67. The 'Pei-shih' places the arrival of the merchants from *Ta Yüeh-chih* in the reign of T'ai-wu (A.D. 424—452). The 'Wei-shu' has *T'ien-chu-kuo* instead of *Ta Yüeh-chih* as the place of origin of the merchants. The 'Sung-shu' attributes the introduction to an embassy from *Ta-Ch'in* in the reign of T'ai-tsa of the early Sung dynasty (A.D. 424—453). HIRTH believed that the agreement of all three sources on the approximate date (early fifth century) assures the accuracy of the tradition. On the relationship of the 'Wei-shu' to the 'Pei-shih' see O. MAENCHEN-HELFEN, Byzantion 17 (1944/45), 228 and KAZUO ENOKI, CAJ 1.1 (1955), 45.

[378] The Annals of the Former and Later Han both speak of the five *yabgu* (*hsi-hou*) who were subject to the *Ta Yüeh-chih*. For the *Ta Yüeh-chih* as the tribal confederation from which the Kuṣāṇas developed, see F. G. PULLEYBLANK, Chinese Evidence for the Date of Kaniṣka, in: A. L. BASHAM, Papers on the Date of Kaniṣka (Leiden 1968), 247—258, and IDEM, Chinese Evidence for the date of Kaniṣka, Bharati 10/11 (1966/68), 112—122. (The title *yabgu* was usually assumed to be of Iranian origin, so H. W. BAILEY, Zoroastrian Problems in the Ninth-Century Books [Oxford 1943], 82 n. 5. More recently a derivation from the Altaic *davgu* has been suggested; see G. CLAUSON, Turk, Mongol, Tungus, AM 8 (1960), 115; cf. R. N. FRYE, Some Early Iranian Titles, Oriens 15 [1962], 356—357). For the date of the fall of the empire of the Great Kuṣāṇas see below pp. 640—641.

[379] So F. HIRTH, Ch. St., 1.62—67; C. G. SELIGMAN and H. C. BECK, Far Eastern Glass: Some Western Origins, BMFEA 10 (1938), 9—15; K. HANNESTAD, Byzantion 25/27.2 (1955/57), 451 (all glass except beads are imported); J. THORLEY, The Silk Trade Between China and the Roman Empire at its Height, circa A.D. 90—130, G&R 18 (1971), 76—77.

[380] W. C. WHITE, Tombs of Old Lo-yang (Shanghai 1934). The tombs belong to the Han clan and were dated by an inscribed bronze bell which bears a date that may be interpreted as either 550 B.C. or 379 B.C. The date on the bell seems to be somewhat earlier than the usual date assigned to the style of most of the art works from the tombs. It is important to remember that no scientific excavations were carried out at this site. A peculiar feature of finds from this site are ornamental bronzes with inlays of glass (e. g. pp. 59—60 no. 2, pl. III; p. 89 no. 130, pl. LI; p. 92 no. 141, pl. LVII; p. 100 no. 177a—b, pl. LXXIII; and p. 116 no. 231, pl. C). Almost all of the glass from Li-mi-ch'ang bears what WHITE describes as a "revolving eye" design in contrasting colours, usually dark blue and white or yellow (e. g. beads: pp. 155—156 nos. 431—433, 436a—b, pl. CLXIII; glass tube: p. 156 no. 437, pl. CLXIII; glass discs: p. 148 nos. 401—402, pl. CLIII). Also found in the tombs were painted glass medallions (e. g. p. 153 nos. 420—422, pl. CLXI); numerous white opaque glass plaques apparently made in moulds (e. g. p. 153—154 nos. 423—424, pl. CLXI); monochrome beads of dark blue glass (e. g. p. 154—155 nos. 428, 434, pl. CLXIII); monochrome (green and blue) glass ear plugs (e. g. p. 158 no. 451a—h, pl. CLXV) and even a fragment of a glass vessel with the same "revolving eye" motif (p. 154, no. 427, pl. CLXII). WHITE also refers to the finds from other clandestine excavations in Honan which produced objects of similar date. Hsin-cheng and Shou-chou yielded glass objects without the distinctive eye design; see WHITE, op. cit., 47—50. (See similar glass beads from kurgans 7, 9, 12, and 19 at Novo-Kumaksk: M. G. MOSHKOM, Novo Kumaskskii kurgannyi mogil'nik Bliz g. Orska, MIA 115 [1962], 211—214, 216, 220—221, fig. 8); from a kurgan at Orenburg, see B. N. GRAKOV, ESA 4 (1929), 177, fig. 8; in Scythian burials in the Crimea, see E. V. IAKOVENKO, Riadovye skifskie pogrebeniia v kurganakh Vostochnogo Kryma, in: Drevnosti Vostochnogo Kryma (Kiev 1970), 125, figs. 13.3, 14.3,8; and from a fourth century B. C. Scythian grave (kurgan 14) at Russkaia Trostianka, see A. I. PUZIKOVA, Dva kurgana iz mogil'nika skifskogo vremeni u s. Russkaia Trostianka, KSIA 102 (1964), 32, fig. 11. The dating of the Piao bells to 550 B.C. has been supported by B. KARLGREN, On the Date of the Piao Bells, BMFEA 6 (1934), 137—149; IDEM, New Studies on Chinese Bronzes, BMFEA 9 (1937), 104—105 n. 13; IDEM, Han and Huai, BMFEA 13 (1941), 57—59. This, however, does not furnish an accurate

date for the associated finds. As Karlgren points out, the bells may have been preserved for centuries in a temple before being buried. The only fact which may be stated with some degree of certainty is that the bronzes from the tombs are pre-Han dynasty, that is, of the Huai period. See also, O. Janse, Le style du Huai, RAA 8 (1934), 161 n. 2; O. Karlbeck, A Honan Grave Find, BMFEA 2 (1930), 201—204 (on Huai bronzes from a tomb at Ku-wei-tsun); J. G. Andersson, The Goldsmith in Ancient China, BMFEA 7 (1935), 1—37. A recent analysis of the inlay work on a Shang bronze has revealed that this is lime-silica glass, see R. J. Gettens, R. S. Clarke and W. T. Chase, Two Early Chinese Bronze Weapons with Meteoritic Iron Blades, Freer Gallery of Art (Washington), Occasional Papers, 4. no. 1 (1971), 8—9, cf. Te-k'un Cheng, Metallurgy in Shang China, TP 2 ser. 60 (1974), 226 who suggests that glass making was discovered by Chinese potters by the twelfth century B.C.

[381] So H. C. Beck and C. G. Seligman, Barium in Ancient Glass, Nature 133 (1934), 982; C. G. Seligman, P. D. Ritchie and H. C. Beck, Early Chinese Glass from pre-Han to T'ang Times, Nature 138 (1936), 721; P. D. Ritchie, Spectrographic Studies on Ancient Glass, Chinese Glass from pre-Han to T'ang Times, Technical Studies in the Field of Fine Arts 5 (1937), 209—220; C. G. Seligman, Antiquity 11 (1937), 18; C. G. Seligman and H. C. Beck, BMFEA 10 (1938), 1—5, 48—49, 51—56 (tables showing results of analyses).

[382] See G. Sarton, Chinese glass of the beginning of the Confucian Age, Isis 25 (1936), 78—79; cf. E. R. Caley, Analysis of Ancient Glass (Corning 1962), 16, 29, 76, 90, who notes that lead regularly occurs in Roman glass and that barium is not a component of Chinese glass after the Han period.

[383] F. Bergman, Archeological Researches, 110, 150, 181, 213, 216—218, 228; for Lou-lan see esp. p. 150: "All the glass objects are certainly importations from the eastern part of the Roman Empire"; Idem, Lou-lan Wood Carvings and Small Finds discovered by Sven Hedin, BMFEA 7 (1953), 114—116.

[384] Fragments of glass vessels similar to "Roman types" were collected on the surface at Togujai, M. A. Stein, Ancient Khotan 1.113—114, e. g. T. M. 001. s, pl. LII. (Habitation at this site may date, to judge from some of the glazed pottery found on the surface, to as late as the early Mohammedan period, ibid., 111.) Fragments of plain and cut green glass were excavated at the Niya River site with documents of the third and fourth centuries, ibid., 1.373, 381, 410, 414, e. g. N. XV.001.b—h, 2. pl. LXXIV; N. 0019 (foot of white glass vessel); N. 0010 (blue glass beads); M. A. Stein, Serindia 1.247, N. XII. 005—006; 0010; 256—257, N. XXIV.0012; 266, N. XXX—XXXII.003; N. XXXV.006; N. 0018; M. A. Stein, Innermost Asia, 1.148, N. 05.a—f; 09; 011—12; 153, N. XLII.i.06. At Kara-dong, which was apparently abandoned before the T'ang period, a few fragments of glass (vessels?) were found, M. A. Stein, Ancient Khotan, 1.450—452, K. 001.f; K. 002.j. The glass from Yotkan was purchased by Stein in Khotan and Yotkan itself and was said to be from that site. See M. A. Stein, Serindia, 1.103, Yo. 06.1; 117, Yo. 00114—116; 118, Yo. 00153; 119; Yo. 00171, 00175; 120, Yo. 00197; 124—125, Kh. 0021, 0044, 0069—70, 0072—73. Most of this material consists of beads with black being the predominant colour. Also Idem, Innermost Asia, 1.108, Yo. 0143—145; 110, Kh. 025—26, 029—30, 037—38, 0193. For glass from Lou-lan see Idem, Serindia, 1.393—427; e. g. 429, L. A. 0062, 0064, 0070, 0071—75, 431—432, L. A. 00126—128, 132, 00139.a—c; 432, L. A. 00171.a—d, 00173.a—c; 434, L. A. III.006; 439, L. A. VIII—IX.009, 0011, 0013—14; 440, L. A. VIII—IX.0018—19, 0024. Some of the nameless sites around Lou-lan have also yielded a number of fragments of glass vessels: Idem, Serindia, 1.440—441, L. B. 001—3, 0015; Idem, Innermost Asia, 1.220, L. A. 037, 091; 223—224, L. D. 05, 016. Farhad-Beg-Yailaki has yielded relatively little glass: Idem, Serindia, 3.1256, F. I. 008; 1.b.003. The site is difficult to date, since all the ruins do not appear to be from the same period of occupation, ibid., 3.1252—1256. Paste beads of the millefiori type were found at Kelpin, Idem, Serindia, 3.1306, Kelpin. 009.a, (Vol. 4, pl. VI), 0010.a—k (Vol. 4, pl. IV). The large site of Chong-Tim, from which most of the coins belong to the T'ang period, yielded little glass: Idem, Serindia, 3.1315, Chong-Tim, 0030, 0034—6. For glass,

primarily beads, from various sites in or near the Khotan oasis (Arkalik, Hanguya, Domoko, etc.) see e. g. IDEM, Innermost Asia, 1.113, Badr. 097—99; 121, Badr. 0399, 0402, 126—127, Ark. Han. 037, 065; 134, D. K. 050.b. For glass from STEIN's site L. K. and Fort L. K. see ibid., 1.190—191, L. K. 048—49, 056—67, 800, 099—100; L. K. Fort. 06; L. K. i.03; L. K. ii.02. Glass in considerable quantities was excavated by STEIN at sites L. L., L. M., and L. R. See e. g. ibid., 1.199—200, L. L.—L. M. I.02, 07—10, 021—22, 026; L. K.—L. M. 04—14; L. M. 025, 070—82, 094—99; 204, L. R. ii.02. For glass 'jewels' set in a silver pendant from Ying-p'an see ibid., 2.759, Ying II.05. Glass beads and pendants from Kucha, ibid., 2.825—826, Yul. 056—57, 058—59, 062, 065 (all acquired as brought from Yalduz-Bagh sites); 828, Kucha. 00144—7 (bought at Kucha Town).

[385] M. A. STEIN, Serindia, 1.283; cf. IDEM, Ancient Khotan, 1.373. For the glass finds from Endere see ibid., 289—92, E. 009—12, 0033, 0035; E. VI.0013—14.a—c; E. Fort. 003, (Vol. 4, pl. XXIX); E. Fort. 004—005, 007, 0011 (vol. 4, pl. XXXVI), 0021, 0027.a—d; E. Stupa. 001—004, 006, 0011.

[386] For example, see description of excavations about the Niya River site, M. A. STEIN, Ancient Khotan, 1.316—384.

[387] For example, finds in the vicinity of Ak-terek and Siyelik on the periphery of the Khotan oasis. STEIN picked up glass beads and fragments of vessels in this area. M. A. STEIN, Serindia, 1.131—153; e. g. p. 145, A. T. 00116.a—c, 00117.a—g, p. 148, A. T. i.00133, p. 153, A. T. S. 0013.a—b. There is no good indication as to date of these sites although the absence of T'ang coins may suggest abandonment before that period. For similar sites near Khadalik possibly abandoned in the eighth century, see ibid., 1.197—199. 'Tati' sites are unstratified and objects of widely divergent chronological periods may often be found lying on the surface side by side, cf. M. A. STEIN, Serindia, 1.282—283, 290, 292.

[388] The letter in Hebrew script is dated to the eighth century, see D. S. MARGOLIOUTH, An Early Judaeo-Persian Document from Khotan in the Stein Collection with Other Early Persian Documents, JRAS (1903), 735—760 and V. MINORSKY, Some Early Documents in Persian, I, JRAS (1942), 181—194. One of the six copper coins found at the site dates from the early eighth century. For glass from the site see M. A. STEIN, Ancient Khotan, 306—307, D. R. 002 (opaque green glass bead).

[389] At present there appears to be a hiatus in the occupation of this site from sometime in the fourth century to the early T'ang period. Both dates are approximate; the first is based on the discovery of two Kharoṣṭhī tablets palaeographically akin to those from Niya at the Endere Fort; the second on T'ang coins from the same area. If STEIN's identification of Endere as the 'Old Tu-huo-lo country' of Hsüan-tsang is correct, there is literary confirmation of the abandonment of the site by the early seventh century; see M. A. STEIN, Serindia, 1.272—279, 286—289; IDEM, La traversée du désert par Hiuan-tsang, TP 2 ser. 20 (1921), 332—354; W. M. MCGOVERN, Early Empires, 480.

[390] LIEN-SHENG YANG, Money and Credit in China, 22. For evidence of abandonment of Miran in the late fourth or early fifth centuries see SAMOLIN, CAJ 4.1 (1958), 48. The find of a Pothi manuscript in Sanskrit written in Brāhmī characters in one of the *stupas* (M. A. STEIN, Serindia, 1.472—538) may suggest a date prior to the fourth century, but this is not sufficient to date the abandonment of the site: see also M. A. STEIN, Ruins of Desert Cathay, 1.459—492. The site was again occupied in the T'ang period when a Tibetan fort was built nearby. It is from this latter occupation that the Turkish document discovered in the fort comes; see V. THOMSON, Dr. M. A. Stein's Manuscripts in Turkish 'Runic' Script from Miran and Tun-huang, JRAS (1912), 181—189; M. A. STEIN, Serindia, 1.471—472. The significance of the discovery of early (e. g. Han) coins at any site is not entirely clear. For example, in the excavations at the Etsina Oasis the same house (K. 702) yielded a Han *wu-shu* coin and a twelfth-century Chinese coin, see B. SOMMARSTRÖM, Archaeological Researches in the Edsen-Gol Region, Inner Mongolia, 1.109 no. K. 13702.

1—2; so also house K. 721, ibid., 127 no. K. 13721.1—3, cf. 5—6; within the great circumvallation of Khara-khoto the coins and documents both suggest a period of occupation in the tenth to fourteenth centuries; yet Han coins have been found in the excavations, ibid., 2.209 no. K. 13799.70; 241 no. K. 13805.1. On the circulation of coins here see E. I. KYCHANOV and E. I. LUBO-LESNICHENKO, Monetnoe obrashchenie v Khara-Khoto, SNV 11 (1971), 49—54, who adds the material from the Koslov expedition.

[391] A necklace of gilt glass beads — "no doubt of Western origin" — from Burial Place 6 is incorrectly dated by F. BERGMAN, Archeological Researches, 110. In fact on the basis of the textiles found in the graves of Burial Place 6 the site should be dated A.D. 600—750; see V. SYLWAN, Investigation of Silk, 51.

[392] For documents from Lou-lan and Niya see above p. 638.

[393] For Niya see e. g. M. A. STEIN, Ancient Khotan, 1.410, N. XV.001.c, a fragment of clear green cut glass; N. XV.001.e, a fragment of rim and side of vessel; N. XV.001.f, a fragment of olive green glass. For Lou-lan see e. g. IDEM, Innermost Asia, 1.220, L. A. 037, a fragment of yellowish moulded glass, apparently the foot of a vessel; L. A. 091, a fragment of clear yellowish cut glass; 224, L. D. 016, a fragment of a glass vessel; IDEM, Serindia, 1.428, L. A. 0062, a fragment of a blown-glass vessel; 431, L. A. 00126, a fragment of yellowish-white blown-glass vessel.

[394] Stressed by F. COARELLI, The Painted Cups of Begram and the Ambrosian Iliad, E&W n. s. 13.4 (1962), 318.

[395] C. W. CLAIRMONT, The Excavations at Dura-Europos, Final Report IV. pt. V: The Glass Vessels (New Haven 1963), 31, 149—150; so also CHEWON KIN, Treasures from the Songyimsa Temple in Southern Korea, Artibus Asiae 22 (1959), 11.

[396] M. A. STEIN, Serindia, 1.393; 431, L. A. 00128.

[397] E. g. M. A. STEIN, Serindia, 1.429, L. A. 0070, a fragment of a pale green, translucent, blown-glass vessel with two wheel-ground hollow ellipses on the outside (from Lou-lan); 439, L. A. VIII—IX, 0013—0014, two fragments from a blown-glass vessel with a wheel-ground pattern of hollowed lozenges on the outside.

[398] In general: A. A. ABDURAZAKOV, Medieval Glasses from the Tashkent Oasis, JGS 11 (1969), 31. Excavations in 1948 at Afrasiab yielded a glass bottle from a level attributed to the second to first centuries B.C.; so A. I. TERENOZHKIN, Raskopi na gorodishche Afrasiabe, KSIIMK 36 (1951), 136—140. Glass beads from three sites in Choresmia, Aiaz-kala, Duman-kala and Bazar-kala are collected and analysed by I. V. PTASHNIKOVA, Busy drevnego i rannesrednevekogo Khoresma, in: Trudy Khorezmskoi arkheologicheskoi ekspeditsii 1 (Moscow 1952), 108—112; also on beads from Aiaz-kala see S. P. TOLSTOV, Drevnii Khorezm, 106—108. The standard history of glass production in Central Asia is A. A. ABDURAZAKOV, M. A. BESBORODOV and IU. A. ZADNEPROVSKII, Steklodelie Srednei Azii v Drevnosti i Srednevekov'e (Tashkent 1963), 56—91 (for the Bactrian and Kuṣāṇa periods).

[399] Glass is found in large quantities at Central Asian sites in strata dating from the last centuries B.C. However, no glass manufacturing facilities from this period have been excavated. See conclusion of M. A. BESBORODOV and J. A. ZADNEPROVSKY, Ancient and Medieval Glass of Middle Asia, in: M. LEVY (ed.), Archeological Chemistry: A Symposium (1967), 33—43: "All materials accessible at present show a considerably widespread use of glassware in antiquity and the Middle Ages in Middle Asia."

[400] The earliest evidence of a local glass industry (large numbers of glass wasters and articles spoiled during manufacture) have been found at Termez from the Kuṣāṇa period, see M. A. BESBORODOV and J. A. ZADNEPROVSKY in: Archeological Chemistry, 130—32; A. A. ABDURAZAKOV, JGS 11 (1969), 31. For chemical analysis of some of this glass, see ibid., 33—36. On the Central Asian glass industry as a development brought about

by Graeco-Roman imports, see V. V. Barthold, A Short History of Turkestan, in: Four Studies on the History of Central Asia (Leiden 1956), 1.6. A glass workshop of the seventh century with two tanks containing vitreous material was found at Pendzhikent, see A. M. Belenitskii, MIA 66 (1958), 133—134, and O. G. Bol'shakov and N. N. Negmatov, Raskopki v prigorode Drevnego Pendzhikenta, ibid., 163—166. An important glass-producing site of the third century has also been excavated further west on the middle Dniester at Komarovo. Analysis of the glass from this site showed the same chemical composition as Roman glass, thus indicating that chemical analysis alone is insufficient proof of Roman origin; see M. A. Besborodov and A. A. Abdurazakov, Newly Excavated Glassworks in the U.S.S.R., 3rd—14th centuries A.D., JGS 6 (1964), 64—65. Glass factories were also active in Tanais in the third century and at Chersonesus in the fourth century; see E. M. Alekseeva and T. M. Arsen'eva, Steklodelie Tanaisa, SA (1966), 2.176—188; G. D. Belov, Steklodelie v Khersonese, SA (1965), 237—239. Most of the glass finds in South Russia belong to the third and fourth centuries, e. g. Zhuravka; see E. A. Symonovich, Steliannye Kubki iz Zhupavki, KSIA 102 (1964), 8—12.

[401] M. A. Besborodov and J. A. Zadneprovsky, in: Archeological Chemistry, 39—42. For high manganese oxide content of glass from Akhsiket in Ferghana, see M. A. Besborodov and A. A. Abdurazakov, JGS 6 (1964), 66—67.

[402] On chemical composition as a clue for the date or geographic origin of glass, see E. V. Sayre and R. W. Smith, Some Materials of Glass Manufacturing in Antiquity, in: Archeological Chemistry, 279—311.

[403] M. A. Stein, Ancient Khotan, 1.135—137, 190—194 (Khotan); Idem, Innermost Asia, 2.672—677 (on wealth of the Astana tombs); ibid., 804—806 (Kucha).

[404] Mau-tsai Liu, Kutscha, 10—11.

[405] For the excavation of these documents, see M. A. Stein, Ancient Khotan, 1.316—321; Idem, Innermost Asia, 1.216—218; Idem, Serindia, 1.216—233, 371—380, 401—402. The major corpus is A. M. Boyer, P. S. Noble, E. J. Rapson, and E. Senart (eds.), Kharoṣṭhī Inscriptions Discovered by Sir Aurel Stein in Chinese Turkestan, 3 vols. (Oxford 1920/29) with a supplementary collection published by T. Burrow, Further Kharoṣṭhī Documents from Niya, BSOAS 9.1 (1937), 111—123. For transcription *Kroraiṃna* (*Krorayina* or *Kroraina*) see B. Karlgren, Word Families in Chinese, BMFEA 5 (1933), 57, and E. G. Pulleyblank, The Consonantal System of Old Chinese, AM n. s. 9 (1962), 122. Cf. H. Lüders, Zu und aus den Kharoṣṭhī-Urkunden, Acta Orientalia 18 (1939/40), 35—37, who argues that Niya was subject to Khotan rather than Lou-lan.

[406] See, for example, Khar. Inscr. no. 579: "The great king, the king of kings, the great, the victorious, the just, the abiding in the true law, his majesty the great king Aṃkvaja, the son of heaven . . ." cf. Burrows, Translation no. 579. In general on royal titles in the Kharoṣṭhī documents see R. Agrawala, Epithets and titles of rulers as depicted in the Kharoṣṭhī documents from Chinese Turkestan, JUB n. s. 24 (1956), 1—5.

[407] E. g. Khar. Inscr. no. 13 deals with mares and horses in a pasture who were injured by careless hunters; Khar. Inscr. no. 16 deals with the age of camels acceptable as payment for a tax; so also Khar. Inscr. no. 42; Khar. Inscr. no. 25 mentions payment of troops in grain; Khar. Inscr. no. 59 is a list of those paying taxes in grain; Khar. Inscr. no. 72 is an irrigation register indicating the number of times wheat has been watered; Khar. Inscr. no. 83 refers to ploughing and the sowing of wheat, barley, and *adiṃni*; Khar. Inscr. no. 122 is a list of cows sold or given as gifts; and Khar. Inscr. no. 168 lists payments of taxes in wine which are in arrears. On the frequency of the use of various types of coins and precious metals in the Kharoṣṭhī documents, see H. W. Bailey, Gandari, BSOAS 11.4 (1946), 795 rejects the term 'muli' as the name of a coin; cf. R. C. Agrawala, Numismatic Data in the Niya Kharoṣṭhī Documents from Central Asia, JNSI 16 (1956), 219—230, who treats mulis as coins. By either interpretation the use of gold coins or bullion is very

rare. Khar. Inscr. no. 12 refers to a judicial decision in the case of a find of a treasure trove, including two gold staters, near Caḍota.

[408] Khar. Inscr. no. 180 purports to be an account listing the camels belonging to King Jiṭugha Mayiri. Before the list breaks off, it mentions 2 male, 87 female and 12 young camels. For other orders regarding the care of royal camels, see Khar. Inscr. no. 40 on which cf. H. Lüders, Acta Orientalia 18 (1939/40), 40—43; nos. 55, 134, 146, 182, 195, 198, 349, 383, 392, 562.

[409] Khar. Inscr. nos. 272. 329.

[410] There are various indications of the wealth and position of certain persons mentioned in the Kharoṣṭhī documents, e. g. Khar. Inscr. no. 100, a letter from Kupṣiṃta to his brother *cozbo* Lyimsa refers to a number of loans made by the former; Khar. Inscr. no. 109 is a letter to Lyimsa from his father which mentions the sending of jewels as gifts to various people; Khar. Inscr. no. 140 is a letter from Kupṣiṃla to the *cozbo* Lyipeya urging him to enquire about the market price of gold and, depending on its value, to sell gold. But those who hold official titles are by no means always men of wealth. Khar. Inscr. no. 8 contains an order from the royal court issuing grain for subsistence to the magistrates. Offices are frequently hereditary, hence there are numerous appeals by persons who have too many obligations bestowed on them; e. g. Khar. Inscr. nos. 10, 430, 431 (which notes that it is not lawful that one man should hold five or six offices), and 562.

[411] For value placed on glass see Harada Yoshito, Acta Asiatica 3 (1962), 60. This was certainly the case in later periods. A Sui (A.D. 581—617) tomb of a member of the Northern Chou imperial family at Hsi-an-fu contained glass utensils and ornaments among the rich grave goods; K'ao-ku (1959), no. 9. Also on the value placed on glass by Chinese aristocrats see Harada Yoshito, Ancient Glass in the History of Cultural Exchange between East and West, AcAs 3 (1962), 60—62.

[412] For a miniature lance made of fine greenish glass from a Former Han tomb of the second century B.C. from near Ch'ang-an see Li Tcheng-kouang and P'eng Ts'ing-ye, Tch'ang-cha Cha-hou-k'iao yi-tai kou-mou fa-kiue pao-kao, KKHP (1957), no. 4, 33—67. There is also other evidence of early glass production in China: glass scabbard slides which are dated to the late Chou period are found in European collections, see N. Plamgren, Selected Antiquities from the Collection of Gustaf Adolf, Crown Prince of Sweden (Stockholm 1948), 225—227, pl. 54, figs. 2—3; S. Jenyns, Chinese Archaic Jades in the British Museum (London 1951), pl. 35e. Such slides are of Chinese provenance and imitate the shape of similar scabbard slides made of jade; so O. Maenchen-Helfen, Crenelated Mane and Scabbard Slide, CAJ 3 (1957), 93, 97. For glass beads from a third century B.C. tomb at Ku-weit-sun see Hsia Nai, New Archaeological Discoveries, China Reconstructs (1952), no. 4, 15; cf. C. G. Seligman, Antiquity 11 (1937), 16, pl. II, a glass bowl of Syrian origin said to have been found in Honan. The 1955 excavations near Che-kia-khouang in Ho-pei province yielded glass fragments from a level attributed to the Warring States period; see Souen tö-hai and Tch'en Houei, Ho-pei Che-kia-tchouang che Che-tchouang ts'ouen Tchan-kouo yi-tche ti fa-kiue, KKHP (1957), 1. 87—91. Glass beads and a miniature lion carved from a block of glass have been found in graves of the time of Wang Mang in the sub-prefectures of Ch'ing-chen and P'ing-pa, Kweichow, see Ch'en Mo-ch'i, Mou Ying-hang and Ch'en Heng-an, Kuei-chou Ch'ing-chen P'ing-pa Han mu fa-chüeh pao-kao, KKHP (1959), 1. 85—103. Glass of any description is also surprisingly rare, given its abundance at Tarim Basin sites, on the Chinese *limes*, e. g. B. Sommarström, Archaeological Researches in the Edsen-Gol Region 1.62 no. A. 8.I.438, a small glass ornament from the Han fort Mu-durbeljin; ibid., 1.105 nos. K. 13693. 14—15, two glass beads from the Etsina Oasis; also p. 107, no. K. 13697, 8, p. 116, no. K. 13710. 48—50, 54—74, p. 119, no. K. 13711.31, etc., the latter are all contemporary with Khara-khoto and suggest that by the tenth century glass was relatively common in China.

[413] See translation and commentary in: A. Waley, Notes on Chinese Alchemy, BSOS 6.1 (1931/32), 13. The realization that the Chinese of the Han period knew how to produce

glass of various colours should lead us to question the theory held by HIRTH and accepted by many others since, that the Romans or Parthians sold the ignorant Chinese coloured glass as gems and realized enormous profits in this way; so F. HIRTH, Ch. St., 1.66—67; also J. THORLEY, G&R 18 (1971), 79.

[414] See discussions by HIRTH of various terms for crystal and glass in Chinese sources, F. HIRTH, China, 228—230; IDEM, Ch. St., 62—63; also A. WALEY, BSOS 6.1 (1931/32), 13. For frequent confusion of glass with naturally occurring rock crystal see A. H. MIRZA, The Early Use of Rock-Crystal in Hind-Pakistan, JPHS 19 (1971), 61—72. It is clear that this common confusion does not preclude the simultaneous knowledge of glass-making, as some interpreters of Chinese texts have suggested it does.

[415] R. Delbrueck, Südasiatische Seefahrt im Altertum, BJ 155/156 (1955/56), 276—277.

[416] The few blue glass beads from Pazyryk kurgan 2 are classed as imports from Central Asia by S. I. RUDENKO, Frozen Tombs, 110. For date see above p. 686, n. 36. Glass beads from Bystrianskoe, Tuiakhta, and Bukturma see K. JETTMAR, BMFEA 23 (1951), 162—163, 165, 153. On coloured glass beads from Hsiung-nu burials at Derestui see S. I. RUDENKO, Hsiung-nu, 40. For glass beads from burials at Tung-shan hsiang of the Hsiung-nu period see ibid., 115. Further west in Central Asia glass beads appear still earlier: in kurgan 3 at Kokcha in Choresmia (dated thirteenth to eleventh centuries B.C.) glass paste beads were found; see M. A. ITINA, Raskopki mogil'nika Tazabagiabskoi kul'tury Kokcha 3, Materialy Khorezmskoi Ekspeditsii 5 (Moscow 1961), 82—83. Similarly from the same period paste beads have been found in a grave at Tau Tary in Kazakstan, A. G. MAKSIMOVA, Mogil'nik epokhi bronzy v urochishche Tau-Tary, TIIAEANKazSSR 14 (1962), 39—40. From a slightly later period (tenth to eighth centuries B.C.) such beads come from kurgans at Vadilskii in Ferghana, B. Z. GAMBURG and N. G. GORBUNOVA, Mogil'nik epokhi bronzy v Ferganskoi doline, KSIIMK 63 (1956), 90, and at Karamkulskii, IDEM, Novye dannye o kul'ture epokhi bronzy Ferganskoi doliny, SA (1957), 3. 133.

[417] For glass drop earrings from the Chapigou Valley near Port Arthur dated from the third century B.C. to second century of our era see A. P. OKLADNIKOV, Soviet Far East in Antiquity (Toronto 1965), 148. Also in Japan at Toro several glass beads from a dwelling of the first to third centuries and from several tombs in the Fukuoka prefecture; see KUZNO YAMASAKI, Introductory Notes on the Ancient Glass of Japan, JGS 1 (1959), 87, who suggests that these are imports from China. Blue glass beads of Han date were also found at Korban Torghai-nu Aila and Boutchin Som in Eastern Mongolia. The excavators are of the opinion that the Han Chinese knew how to produce glass and cite literary passages to support this view: R. TORII and K. TORII, Études archéologiques et ethnologiques de populations primitives de la Mongolie orientale, Jour. of the College of Science, Imperial Univ. of Tokyo 36.4 (1914), 83—84 n. 58.

[418] A pagoda at Songyimsa yielded a cup of yellowish-green glass of excellent workmanship, a yellowish-green *sarira* bottle, the fragments of a third object of yellowish-green glass, and a number of glass beads and fragments. The author suggests that the glass vessels are too fragile to have been imported the long distance from China and their similarity to glass beads found widely in Korea probably implies a local manufacturing centre; see CHEWON KIM, Treasures from the Songyimsa Temple in Southern Korea, Artibus Asiae 22 (1959), 108—111. For similar bottles from sixth to seventh century Japan see KAZUO YAMASAKI, JGS 1 (1959), 87—88.

[419] For Chinese diplomatic relations with native kingdoms of Korea (Fa-yü and Kao-kou-li) and the areas ruled by the Han directly see the collection of material for the Later Han period from the HHS by K. H. J. GARDINER, The 'Hou-Han-Shu' as a source for the Early Expansion of Koguryo, MS 28 (1969), 150—187.

[420] Said to be of Syrian origin by C. G. SELIGMAN, The Roman Orient and the Far East, Antiquity 11 (1937), 16 and pl. II. Other glass finds have been made in tomb no. 201 (two dark-green glass beads) and tomb no. 260 (a small piece of colourless transparent

glass inlaid in bronze on the cover of a lacquer vessel) at Sekiganri. See Kosaku Hamada, The Tomb of the Painted Basket of Lo-lang, Detailed Report of Archaeological Research Vol. 1 (Seoul 1934), 23 no. 44; 25 fig. 49.

[421] Chewon Kim, Artibus Asiae 22 (1959), 108—111, fig. 13.

[422] In Mesopotamia glass-making was a well-developed scientific process; see A. L. Oppenheim et al., Glass and Glassmaking in Ancient Mesopotamia (Corning 1970), passim, and Idem, More Fragments with Instructions for Glassmaking, JNES 32 (1973), 188—193. See also evidence for early glass cited below n. 765.

[423] For glass production in Achaemenid Persia see A. Oliver, Persian Export Glass, JGS 12 (1970), 9—16. Also for the later period see A. von Saldern, Achaemenid and Sassanian Cut Glass, Ars Orientalis 5 (1963), 7—16.

[424] See the suggestion of A. Oliver, JGS 12 (1970), 9 that ingots of glass were imported into Greece from Persia. So also conclusions about the remains of an early medieval glass industry at Staraia Ladoga in Z. A. L'vova, Stekliannue busy Stapoi Ladogi, AS 12 (1970), 111.

[425] M. Rostovtzeff, SEHRE^2, 2.576 n. 17, who cites this vessel as proof that Alexandrian glass was imported into China "as early as the Hellenistic period".

[426] E. Leider, Der Handel von (Alexandria, Diss. Hamburg 1934), 59, cites the vase as proof of direct Ptolemaic trade with China in the second century B.C.; H. Seyrig, Inscriptions grecques de l'Agora de Palmyre, Syria 22 (1941), 262 n. 2; K. Hannestad, Les relations de Byzance avec la Transcaucasie et l'Asie Centrale aux 5^e et 6^e siècles, Byzantion 25/27.2 (1955/57), 428 n. 3; cited in Hiroshi Wada, Serinda, 21 as evidence of the „*sprunghafte Entwicklung des Weltverkehrs*"; H. F. Fernald and D. M. Sutherland, West, East, Bull. of the Roy. Ont. Mus. of Arch. 21 (1953), 21, suggest a Graeco-Bactrian or Khotanese origin for the vase.

[427] Originally published by J. Pijoan, A Greek Glass Vase from China, BurlMag 41 (1922), 235—237, pl. 50 (suggests it was made in Alexandria); also D. M. Robinson and C. G. Harcum, Greek Vases in the Royal Ontario Museum (Toronto 1930), 1. p. 269 no. 626.

[428] I would like to express my gratitude to Dr. D. Dohrenwend and P. Kaellgren for taking the time to discuss this piece with me and particularly to Mr. Kaellgren, who provided the photographs published here.

[429] So M. Rostovtzeff, SEHRE^2, 2.576 n. 17.

[430] J. Pijoan, BurlMag 41 (1922), 237.

[431] The basis for this dating was explained to me by Mr. Kaellgren during my visit to the Museum. The entry card in the museum catalogue notes that the attribution was confirmed by Dr. Thomas S. Buechner of the Brooklyn Museum.

[432] So G. F. Hudson, Europe and China, 101—102; H. E. Fernald and D. M. Sutherland, Bull. of the Roy. Ont. Mus. of Arch. 21 (1953), 20; J. I. Miller, Spice Trade, 240—241; Ying-shih Yü, Trade and Expansion, 159.

[433] For the Sogdians as middlemen see above pp. 638—639. For the Kuṣāṇas see above pp. 639—641.

[434] Periplus c. 64 (= Frisk, p. 21.11—17): Μετὰ δὲ ταύτην τὴν χώραν ὑπ' αὐτὸν ἤδη τὸν βορέαν, ἔξωθεν εἴς τινα τόπον ἀποληγούσης τῆς θαλάσσης, παράκειται [δὲ] ἐν αὐτῇ πόλις μεσόγειος μεγίστη, λεγομένη Θῖνα, ἀφ' ἧς τό τε ἔριον καὶ τὸ νῆμα καὶ τὸ ὀθόνιον τὸ Σηρικὸν εἰς τὴν Βαρύγαζαν διὰ Βάκτρων πεζῇ φέρεται καὶ εἰς τὴν Λιμυρικὴν πάλιν διὰ τοῦ Γάγγου ποταμοῦ. Εἰς δὲ τὴν Θῖνα ταύτην οὐκ ἔστιν εὐχερῶς ἀπελθεῖν· σπανίως γὰρ ἀπ' αὐτῆς τινὲς οὐ πολλοὶ ἔρχον-

ται. Periplus c. 39 (= FRISK, p. 13.11) lists among the exports from Barbaricum Σιρικὰ δέρματα καὶ ὀθόνιον καὶ νῆμα Σιρικὸν . . . and Periplus c. 49 (= FRISK p. 16.30) lists among the exports from Barygaza Σηρικὸν καὶ μολόχινον καὶ νῆμα. Periplus c. 64 with its reference to the infrequent use of the overland route to China was thought by HERRMANN to refer to the period after A. D. 87 when Pan Ch'ao went into the Western Regions; A. HERRMANN, Ein alter Seeverkehr zwischen Abessinien und Süd-China bis zum Beginn unserer Zeitrechnung, Zeitschr. d. Gesellsch. f. Erdkunde zu Berlin, 7 (1913), 553—554 n. 3. Accepted by E. KORNEMANN, Die historischen Nachrichten des Periplus Maris Erythraei über Arabien, Janus 1 (1921), 59, and E. HERZFELD, Sakastan: Geschichtliche Untersuchungen zu den Ausgrabungen am Kūh i Khwādja, AMI 4.2 (1932), 89 n. 2; cf. J. G. C. ANDERSON, The Policy of Nero in the South-East and the North-East, CAH 10 (1963), 881—882. The same hypothesis is set forth again in J. L. TRABOLD, A Chronology of Indian Sculpture: the Sātavāhana Chronology at Nāsik, Artibus Asiae 32 (1970), 64 without reference to earlier discussions of this passage.

[435] Some scholars have expressed their belief in the primacy of this route for all Oriental trade; so e. g. W. H. SCHOFF, Proc. Num. and Ant. Soc. of Philadelphia (1913), 54; J. AUBOYER, Rencontre de trois civilisations au coeur de l'Asie: Grèce, Inde et Chine, Antiquity and Survival 1.6 (1955/56), 447. Isidorus of Charax in his Σταθμοὶ Παρθικοί traces a land route from Zeugma on the Euphrates to 'Αλεξανδρόπολις μητρόπολις 'Αραχωσίας. Text of Σταθμοὶ Παρθικοί with commentary and translation: W. H. SCHOFF, Parthian Stations by Isidore of Charax (Philadelphia 1914). Also on the land route see B. ALMGREN, Geographical Aspects of the Silk Road especially in Persia and East Turkestan, BMFEA 34 (1962), 93—106.

A second overland route which ran from Central Asia to the Greek cities on the shores of the Black Sea is also frequently mentioned; so e. g. E. H. WARMINGTON, Commerce^{2}, 26—28; J. I. MILLER, Spice Trade, 140—141; M. P. CHARLESWORTH, Trade-Routes^{2}, 106—107; D. M. PIPPIDI, Sur une route commerciale de l'antiquité tombée dans l'oubli, StudClas 10 (1968), 243. At issue is a brief passage of Strabo XI.5.8: Οἱ δ'ἐφεξῆς ἤδη νομάδες οἱ μεταξὺ τῆς Μαιώτιδος καὶ τῆς Κασπίας Ναβιανοὶ καὶ Πανξανοὶ καὶ ἤδη τὰ τῶν Σιράκων καὶ 'Αόρσων φῦλα . . . καὶ γὰρ (οἱ ἄνω "Αορσοι) ἐπεκράτουν πλείονος γῆς, καὶ σχεδόν τι τῆς Κασπίων παραλίας τῆς πλείστης ἦρχον, ὥστε καὶ ἐνεπορεύοντο καμήλοις τὸν 'Ινδικὸν φόρτον καὶ τὸν Βαβυλώνιον, παρά τε 'Αρμενίων καὶ Μήδων διαδεχόμενοι. The reference here, however, is to the time of Pharnaces I of the kingdom of the Bosporus, who was on the throne after c. 185 B.C. The economic ties of this area with the south and east are also indicated by the coin hoards. For example, in 1966 at Kebala in Soviet Albania a large hoard, including drachms and imitation (436 of the latter) drachms of Alexander the Great, 5 Parthian drachms (Arsaces to Phraates II), 131 Seleucid tetradrachms (Seleucus IV to Antiochus VII) and 5 Bactrian tetradrachms (Diodotus and Eucratides), was found. See I. A. BABAEV and C. M. KAZIEV, Kabalinskii klad monet ellenisticheskoi epokhi, NE 9 (1971), 16—32. At the time of Alexander the Great Indian wares were said to have been shipped down the Oxus to the Caspian. So Aristobulus cited by Strabo XI.7.3 = FGrHist no. 139, F. 20 and JACOBY's commentary ad loc.; cf. also Pliny, NH VI.52, who reports that Pompey also heard of a land and river route to India via the Caspian and Oxus. There is a distinct possibility that in the historic period the Oxus (Amu Darya) did flow into the Uzboi and on into the Caspian. See S. P. TOLSTOV, Khorezmskaia arkheologo-etnograficheskaia ekspeditsiia, 1955—1956 gg., SA 28 (1958), 126—127. The level of the Caspian Sea has fluctuated enormously in the historic period and has fallen 3 meters since 1929. In an effort to reverse this trend Soviet engineers have suggested that the dried-up Uzboi again be brought into use to link the Caspian and Aral Seas (the latter to be replenished with water from diverted Siberian rivers); see P. P. MICKLIN, Dimensions of the Caspian Sea Problem, SovGeog 13.9 (1972), 589—598; M. M. DAVYDOV, The Ob' will enter the Caspian: the Yenisey-Ob'-Aral-Caspian Water Connection and the Energy Problem, ibid., 603—617, and N. F. GLAZOVSKIY and B. N. GOLUBOV, On the Problem of Regulating the Regime of the Caspian Sea, SovGeog 16.1 (1975), 41—45. The later use of this route is briefly traced in S. ROY, From the Ganga to the Volga — the History of an Ancient Trade Route, in: Studies in Asian History (Bombay 1969), 169—176.

[436] So also K. A. Nilakanta Sastri, The Colas, I (Madras 1935), 101—102, and A. Dihle, The Conception of India in Hellenistic and Roman Literature, PCPhS 190 (1964), 15—16. The mythology of the silk route is so influential that many believe that the sea route was insignificant compared with the importance of the overland route; so L. Petech, Rome and Eastern Asia, E&W n. s. 2 (1951), 74; J. Thorley, G&R 16 (1969), 216; A. Dani and F. Khan, Kushan Civilisation in Pakistan, Proc. Dushanbe, 97.

[437] This is asserted by W. H. Schoff, Proc. Num. and Ant. Soc. of Philadelphia (1913), 47—48, 51; G. F. Hudson, Europe and China, 99; J. Thorley, G&R 16 (1969), 209; E. H. Warmington, Commerce², 311—318.

[438] See Periplus c. 39 and 49 cited above p. 746, n. 434.

[439] Periplus c. 49; see text cited and discussed below n. 440 and discussion of coin finds in the Northwest above pp. 631—632.

[440] Periplus c. 49 (= Frisk, p. 16.23—24): Προχωρεῖ δὲ εἰς τὸ ἐμπόριον (Βαρύγαζα) ... δηνάριον χρυσοῦν καὶ ἀργυροῦν, ἔχον ἀλλαγὴν καὶ ἐπικέρδειάν τινα πρὸς τὸ ἐντόπιον νόμισμα ... This is usually combined with a statement in Philostratus, Apollonius of Tyana II.7: καὶ μὴν καὶ νομίσματά ἐστιν Ἰνδοῖς ὀρειχάλκου τε καὶ χαλκοῦ μέλανος, ὧν δεῖ δήπου πάντα ὠνεῖσθαι πάντας ἥκοντας ἐς τὰ Ἰνδῶν ἤθη. The two passages together suggest to some that Roman traders were compelled to exchange their own currency for local Indian coins before making any purchase in the Indian markets; so B. Srivastava, Economic Significance of Roman Coins found in India, JNSI 26 (1964), 224—225. Charpentier in discussing this passage accepted Rapson's suggestion that we have in the reference to ὀρείχαλκος an accurate description of the nickel coins of Euthydemus II; see J. Charpentier, The Indian Travels of Apollonius of Tyana (Uppsala 1934), 39—40. Few of these coins were struck and their metallic content may have been accidental (see discussion above p. 706, n. 162). That any were still in circulation two centuries later is unlikely.

It must be remembered that the 'Life of Apollonius of Tyana' is a work of fiction (see below p. 782, n. 584) and retails a number of popular fables about India. A contemporary of Philostratus, Pausanias, tells another such story (III.12.4): οἱ δὲ ἐς τὴν Ἰνδικὴν ἐσπλέοντες φορτίων φασὶν Ἑλληνικῶν τοὺς Ἰνδοὺς ἀγώγιμα ἄλλα ἀνταλλάσσεσθαι, νόμισμα δὲ οὐκ ἐπίστασθαι, καὶ ταῦτα χρυσοῦ τε ἀφθόνου καὶ χαλκοῦ παρόντος σφίσι. Cunningham was correct in regarding such stories as "silly gossip"; A. Cunningham, Coins of Alexander's Successors, NC n. s. 13 (1873), 213.

[441] For details about the coinage in circulation in Northern India see above p. 671.

[442] See D. W. MacDowall and N. G. Wilson, The References to the Kuṣāṇas in the Periplus and Further Numismatic Evidence for its Date, NC 7 ser. 10 (1970), 234—236, who use this passage to find a terminus post quem of A.D. 98/99 for the 'Periplus'.

[443] See figures given above p. 665.

[444] A reliquary deposit in a tope at Manikyala excavated by Court in 1833 contained seven Roman *denarii* and a number of Kuṣāṇa copper and gold coins (latest of Kaniṣka). The coins are all very badly worn and have been difficult to identify. Lt. Court, Further Information regarding the Topes or Tumuli at Manikyala, JASB 3 (1834), 558—559, describes the excavation. J. Prinsep, Description of the Coins discovered in a Second Tope at Manikyala, JASB 3 (1834), 564—565, pl. XXXIV, whose identifications are incorrect but the line drawings of the coins are useful. Also A. Cunningham, Correction of a Mistake Regarding Some of the Roman Coins Found in the Tope at Manikyala Opened by M. Court, JASB 3 (1834), 635—637; R. Rochette, Deuxième supplement à la notice sur quelques médailles grecques inédites de rois de la Bactriane et de l'Inde, JS (1836),

70—75. The latest coin is a *denarius* of M. Antonius of 38 B.C. of the type CRAWFORD, RRC I.553.2. See also on this hoard E. R. ALLCHIN, Archaeology and the Date of Kaniṣka: The Taxila Evidence, Kaniṣka Papers, 26, 32. Also from the field near Manikyala is the gold ornament consisting of a band of 5 *aurei* (all from the reign of Antoninus Pius) set between two gold wires, found in 1885. See A. F. R. HOERNLE, Report on an ornament of ancient gold coins, PASB 53 (1886), 86—89. In the Ahia Posh *stupa* near Jalalabad 3 *aurei* (Domitian, Trajan, and Hadrian) were found together with 17 Kuṣāṇa gold coins (10 Vima Kadphises, 6 Kaniṣka and 1 Huviṣka). See Capt. WATERHOUSE, Coins from the Ahin Posh Tope near Jalalabad, PASB (1879), 77—79; A. F. R. HOERNLE, Gold Coins from Jalalabad, PASB (1879), 122, 134—135. The hoard has figured prominently in the controversy about the date of Kaniṣka: e. g. V. A. SMITH, The Kushan or Indo-Scythian Period of Indian History 165 B.C.—A.D. 320, JRAS (1903), 34—35; J. KENNEDY, Sidelights on Kaniṣka, JRAS (1913), 371—378, and F. R. ALLCHIN, in: Kaniṣka Papers, 27—31, 34. Only a single *denarius* of Tiberius was found in the excavations at Taxila, see J. MARSHALL, ASIAnRep (1935), 29—30, 83. For the Pakli hoard which also comes from this region, see below p. 749, n. 450.

[445] The archaeological evidence for the spread of Buddhism in Central Asia has been greatly increased by Soviet excavations; M. N. BIAZMITINA, Raskopki na gorodishche Airtam, in: Termezskaia arkheologicheskaia kompleksnaia ekspeditsaiia, 1 (Tashkent 1945), 23—34, who describes the excavations of a Buddhist monastery at Airtam; cf. G. A. PAGACHENKOVA, Dve stupy na iuge Uzbekistana, SA (1967), 3, 257—264 on *stupas* of the Kuṣāṇa period at Airtam and Zurmala (near Termez). On the latter see also A. S. STRELKOV, Zupmala ili Katta-tiupe okolo Termeza, Kul'tura Vostoka 1 (1927), 27—30. For Buddhist sculptures from the excavations of Old Termez, see A. S. STRELVOV, Les Monuments pré-islamiques de Termez, Artibus Asiae 4 (1931), 220. For the excavations of the Buddhist caves and monastery at Kara Tepe see B. IA. STAVINSKII, Osnovnye itogi raskopok Kara-tepe v 1961—1962, in: Kara-tepe: buddiiskii peshchernyi monastyr' v starom Termeze (Moscow 1964), 7—61. For subsequent excavations see B. IA. SATAVISKII, Raskopki v Starom Termeze v 1963—1964 gg., SGE 27 (1966), 86—87; IDEM, Raskopki buddiiskikh kompleksov na Kara Tepe v Starom Termeze, AO (1966/67), 311—312, and IDEM, Raskopki Kara-tepe: buddiiskogo kul'tovogo tsentra kushanskogo Termeza, AO (1967/68), 337—338. The Bactrian inscriptions from the caves were published by J. HARMATTA, Bactrian Wall-Inscriptions from Kara-tepe, in: Buddiiskie peshchery Kara-tepe v Starom Termeze (Moscow 1969), 82—104. See concordance and suggested emendations of these texts by H. HUMBACH, Kara Tepe-Tochi-Surkh Kotal, MSS 28 (1970), 43—50; cf. B. N. MUKHERJEE, The Epigraphic Evidence from Kara Tepe and the so-called Old Saka Era, E&W n. s. 21 (1971), 69—73, who supposed a Zoroastrian takeover of the site in the third century. The chronological conclusions he draws from this are of little value. Better on this is J. HARMATTA, The Bactrian Inscriptions of Kara Tepe, in: Proc. Dushanbe, 328—333; cf. H. HUMBACH, MSS 28 (1970), 50, who suggests that Bactrian inscription no. 10 is dated in what he terms the 'Kushano-Sassanian' era of A.D. 232. For a possible Buddhist temple in the valley of the Sanazar River in Sogdiana, see L. I. AL'BAUM, Buddiiskii khram v doline Sanazara, DANUzSSR (1955), no. 8, 57—60. The evidence for the spread of Buddhism in the sixth to eighth centuries is assembled by G. FRUMKIN, The Expansion of Buddhism as Witnessed by Recent Archaeological Finds in Soviet Central Asia, BiOr 25.3/4 (1968), 157—159.

[446] For statistics about the travels of Buddhist monks see the material cited below p. 1059 n. 1709.

[447] For an excellent criticism of the frequently held misconception that the movement of coinage must always be explained in terms of commerce see P. GRIERSON, Commerce in the Dark Ages. A Critique of the Evidence, TrRoyHistSoc 5 ser. 9.1 (1959), 129—139. For possibility of adding curious or old coins to such deposits see V. A. SMITH, JRAS (1903), 34—35. In general on the practice of placing reliquary boxes in *stupas* see M. BÉNISTI, Etude sur le stūpa dans l'Inde ancienne, BEFEO 40 (1962), 41, 49.

[448] Details and literature on the finds in the Northwest are listed above n. 444 and the Pakli hoard is described below n. 450.

[449] See analysis above pp. 665—672.

[450] The Pakli hoard contained three *denarii* of Augustus of the type BMCRE 1.519ff., and one of Tiberius of the type BMCRE 1.34ff.

[451] Cf. J. I. MILLER, Spice Trade, 229, who states that the coin finds here confirm that Roman coins were also sent along the overland silk route. He cites no examples of such finds.

[452] A. CUNNINGHAM, Coins of the Kushans, or Great Yue-Ti, NC 2 ser. 12 (1892),70; R. SEWELL, Roman Coins Found in India, JRAS (1904), 596; V. SMITH, JRAS (1913), 941; W. H. SCHOFF, Proc. Num. and Ant. Soc. of Philadelphia (1913), 63; S. K. CHAKRABORTTY, Foreign Denominations of Ancient Indian Coins, IHQ 15 (1939), 72; A. S. ALTEKAR, The Relative Prices of Metals and Coins in Ancient India, JNSI 2 (1940), 2; so still V. M. MASSON, I monumenti archeologici dell'Asia Centrale. Influenze e relazioni greco-romane, in: La Persia e il mondo greco-romano, 374; E. H. WARMINGTON, Commerce², 298—299 and appendix 394j; F. R. ALLCHIN, An Inscribed Weight from Mathurā, JESHO 7.2 (1964), 204; R. GÖBL, Le relazioni numismatiche tra Roma e l'impero dei Kushana, in: Congresso Internazionale di Numismatica, Roma 11—16 Settembre 1961 (Rome 1965), 2.509—511 (with modifications); J. E VAN LOHUIZEN DE LEEUW, The 'Scythian' Period, 365—366; A. L. BASHAM, A New Study of the Saka-Kusana Period, BSOAS 15 (1953), 89—90; B. N. MUKHERJEE, Nanā on Lion (Calcutta 1969), 36.

[453] So A. CUNNINGHAM, NC 3 ser. 12 (1892), 70; G. F. HILL, Roman Aurei from Pudukota, South India, NC 3 ser. 18 (1898), 318; F. W. THOMAS, JRAS (1913), 1019—1020; R. SEWELL, JRAS (1904), 596; R. E. M. WHEELER, Aspects of Archaeology, 363; S. K. MAITY, Metrological Study of the Gold Coins of Early India, JNSI 23 (1961), 260; S. R. GOYAL, The Attribution of Candragupta-Kumaradevi Coin-type, INC 4.2 (1965), 105; S. C. RAY, JNSI 30 (1968), 117; J. PIRENNE, in: M. MOLLAT (ed.), Sociétés, 116; cf. E. H. WARMINGTON, Commerce², 298—299 cites Mesene and Arabia as the source of Kuṣāṇa gold. What is forgotten is that traditionally in Northwestern India the method for obtaining flans, if metal for coining is in short supply, is to strike over issues of another ruler already in circulation. This was done by the Indo-Greeks.

[454] J. KENNEDY, The Secret of Kanishka, JRAS (1912), 994—1002; J. F. FLEET, JRAS (1913), 916; D. W. MACDOWALL, The Weight Standards of the Gold and Copper Coinages of the Kushana Dynasty from Vima Kadphises to Vasudeva, JNSI 32.1/2 (1960), 63—66. The theoretical standard of the Republican *aureus* is 8.19gm (cf. Pliny, NH XXXIII.13); cf. on the value of this P. GRIERSON, Coin Wear and the Frequency Table, NC 7 ser. 3 (1963), xv—xvi. Many of the products of the Roman mint in the period 47—27 B.C. certainly fall close to this theoretical maximum; see comments of T. V. BUTTREY, AJA 65 (1961), 86.

[455] A number of such silver coins have been published: P. GARDNER, BMC Greek and Scythian Kings of Bactria and India, pl. XXV.11 (Vima Kadphises); ASIAnRep (1925/26), pl. LX.f (Kaniṣka); R. B. WHITEHEAD, Catalogue of the Coins in the Punjab Museum, Lahore, Vol. 1: Indo-Greek Coins (Oxford 1914), p. 197 no. 135, pl. XVIII (Huviṣka); M. B. L. DAR, A New Silver Coin of Huviska, JNSI 2 (1940),15. Also R. GHIRSHMAN, Un décadrachme Kouchan inédit, in: Mélanges Louis Massignon (Damascus 1957), 2.259—260, who published a silver decadrachm of Vima Kadphises which he considers genuine. The coin is a forgery; see F. ALTHEIM, Geschichte d. Hunnen, 1.381. See also B. N. MUKHERJEE, An Agrippan Source, 233—234 n. 68, who suggests that the Kuṣāṇas coined in silver for the lower Indus region.

[456] Twelve cast Kuṣāṇa coins, obvious forgeries, are published by A. S. Altekar, Twelve Forged Silver Coins of the Kushanas, JNSI 14.1 (1952), 34—40, who points out that all the silver Kuṣāṇa coins then in Indian museums appeared to be cast.

[457] The Yüeh-chih conquerors of Bactria, from whom the Kuṣāṇas sprang (on this problem see O. MAENCHEN-HELFEN, The Yüeh-chih Problem Re-examined, JAOS 65 [1945], 71—81; cf. the criticism of R. SCHAFER, Linguistics and History, JAOS 67 [1947], 296—305. For Yüeh-chih as *Tuγr* see W. B. HENNING, Argi and 'Tokharians', BSOAS 9.3 [1938], 561—564.) struck a barbarized and reduced silver coinage imitating that of several Bactrian kings. Especially numerous are imitations of the drachms and tetradrachms of Heliocles. These coins have been found at Termez, Zar-tepe, Kainovat, Stalinabad, Begram, and Shakhrinau. See V. M. MASSON, Drevnebaktriiskie monety. Chekanennye po tipu tetradrakhm Geliokla, EV 11 (1956), 63—75; IDEM, K voprosy o chekane iuechzhiiskoi Baktrii, IOONANTadzhSSR 14 (1959), 109—114. For a copper coin of this type perhaps from the Dharmarajika *stupa* at Taxila see S. C. KALA, A Rude Imitation Coin of Heliokles, JNSI 9 (1947), 26. Three similar copper imitations were found at Shakhrinau; see E. A. DAVIDOVICH, Monetnye nakhodki na territorii Tadzhikistana v 1954g., TIIANTadzhSSR 37 (1956), 95. Also a bronze imitation of Heliocles was found at Stalinabad. See E. A. DAVIDOVICH, Monetnye nakhodki na territorii Tadzhikistana, zaregistrirovannye v 1956g., TIIANTadzhSSR 91 (1959), 171—172. The coinage closely preceding that of Kadphises I is that of Heraios. This ruler, whose silver obols circulated widely in Bactria, was a Kuṣāṇa ruler of the last decades of the first century B.C. or the early years of the present era. The same date is suggested by A. M. MANDEL'SHTAM, Kochevniki na puti v Indiy, MIA 136 (Moscow/Leningrad 1966), 140—144; cf. W. W. TARN, GBI^2, 505—507, suggests a marriage alliance with Hermaeus and a mint at Kapisa. The former is purely fictive, the latter probably incorrect. The best study of the coins of Heraios is the booklet of A. N. ZOGRAF, Monety Geraia (Tashkent 1937), who suggests (p. 28) a slightly earlier date than that proposed above. Cf. G. A. PUGACHENKOVA, Kikonografii Geraia (O nekotorykh voprosakh rannekushanskoi istorii), VDI (1965), 1.127—136, who suggests that Khalchaian was the capital of Heraios. Only bronze coins of Heraios were found at Taxila, see J. MARSHALL, Taxila, 2.812 nos. 174—175.
A recent study of the Kuṣāṇa, 'Scythian' and imitation Hermaeus coinage in the first century B.C. argues that all of the coinage and political movements of the time had only one aim: to facilitate and control long-distance overland trade in Northwest India. The entire reconstruction differs little from fiction; E. W. DOBBINS, The Commerce of Kapisene and Gandhara after the fall of Indo-Greek Rule, JESHO 14.3 (1971), 286—302. Also for possible silver drachms of Kujula Kadphises see D. W. MACDOWALL and N. G. WILSON, NC 7 ser. 10 (1970), 232—233.

[458] So e. g. R. D. BURNETT, The Art of Bactria and the Treasure of the Oxus, Iranica Antiqua 8 (1968), 42; H. CHAKRABORTI, Trade and Commerce of Ancient India (Calcutta 1966), 269—272. Also B. LAUFER, Die Sage von den Goldgrabenden Ameisen, TP 2 ser. 9 (1908), 443, 445, who speaks of the 'ant-gold' imported to India from Central Asia and attributes the story of Herodotus (III. 102, 104—105) to this region also.

[459] W. W. TARN, GBI^2 103—112, who states that silver was scarce and gold non-existent in Bactria, Sogdiana and Northwest India. The gold coinage of the Kuṣāṇas was thus, he notes, based on bullion imported from the West. It is argued that the Persian Empire drew its gold from the Altai and that the famous gold-digging ants are to be localized there as well.

[460] There are a number of literary references to ancient gold mines in the Gangetic Basin, e. g. Pliny, NH VI.67—68: *fertilissimi sunt auri Dardae, Setae vero et argenti.* Also in the northern mountains, NH VI.74: *huius (Capitaliae) incolae alio latere late auri et argenti metalla fodiunt.* Cf. Ptolemy, Geog. VII.2.17 (RENOU) on gold and silver mines in the Transgangetic Region. On which see P. H. L. EGGERMONT, The Murundas and the Ancient Trade Route from Taxila to Ujjain, JESHO 9.3 (1966), 277—279. More reliable is the report in the Periplus c. 63 (= FRISK, p. 21.6—7): Λέγεται δὲ καὶ χρυσωρύχια περὶ τοὺς τόπους εἶναι, ... For availability of alluvial gold deposits on the upper reaches of the Indus see A. L. COULSON, Gold in the N.W.F.P., MGMII 33 (1937), 202—203. But cf. K. N. PURI, La Civilisation de Mohen-Jo-Daro, Thèse Univ. de Paris (Paris 1938),

43 n. 1, who notes that an analysis of the gold found at Mohenjo-daro suggests that it came from the gold fields of Kalar and not from the sands of the Indus.

Remains of ancient mine shafts and pits are to be found in many parts of India. The dates of all of these shafts and pits cannot be established with certainty. The best summary of the evidence is F. R. Allchin, Upon the Antiquity and Methods of Gold-Mining in Ancient India, JESHO 5 (1962), 195—211, who cites (pp. 205—206) two C-14 readings from timbers found in an ancient working at Hutti in Hyderabad at a depth of about 250 feet: 1890±70 years and 1810±70 years.

The evidence for silver mining in antiquity in Punjab, Rajasthan and Bengal — bodies of argentiferous lead ores, Indian, Chinese and Arabic literary references — has been collected in L. Gopal, Source of Silver for the Punch-Marked Coins, in: A. K. Narain and L. Gopal (eds.), Chronology 65—69, 73—76. For large number of silver finds at Sirkap (Taxila) see J. Marshall, Taxila, 2.607—637 who suggests that the silver was imported from Afghanistan. Cf. also the discovery of a Pahlavi ostracon at a mine in the mineral-rich Anarak area of Central Iran (for relation of this to the western boundary of the Kuṣāṇa Empire see below p. 801, n. 679): R. N. Frye, Biyabanak: The Oases of Central Iran, CAJ 5.3 (1960), 183—187. The antiquity of the open gold-mining pits in the Tinnevelly district of Southern India is uncertain, see report of A. Rea, Prehistoric Antiquities in Tinnevelly, ASIAnRep 1 (1902/03), 111—140; Idem, Catalogue of the Prehistoric Antiquities from Adichanrallur and Perumbur (Madras 1915), 7; cf. T. Harrisson and D. J. O'Connor, Gold in West Borneo, SMJ 17 (1969), 53—55 for parallels between some of the gold objects from Tinnevelly and those from Jaong in the Sarawak Delta.

[461] For the chronology of the Kuṣāṇas see above pp. 639—640. Of crucial importance here is Periplus c. 47 (= Frisk, p. 16.3—6): 'Επίκειται δὲ κατὰ ⟨νώ⟩του τῇ Βαρυγάζῃ μεσόγεια πλεοίνα ἔθνη, τό τε τῶν 'Αρατρίων καὶ ⟨'Α⟩ραχουσ⟨ί⟩ων καὶ Γανδαραίων καὶ τῆς Προκλ⟨α⟩ΐδος, ἐν οἷς ἡ Βουκέφαλος 'Αλεξάνδρεια. Καὶ τούτων ἐπάνω μαχιμώτατον ἔθνος Βακτριανῶν ὑπὸ βασιλέα ὄντων ἴδιον [τόπον].. Frisk in his apparatus generally ignored earlier emendations. See those collected by B. Fabricius, Der Periplus des erythräischen Meeres von einem Unbekanten (Leipzig 1883), 89; to which add Marquart, Eranšahr, 210 n. 3: μαχιμώτατον ἔθνος Βακτριανῶν ὑπὸ βασιλέα οὖσα ἴδιον [ἐντόπιον]; J. Kennedy, A Passage in the Periplus, JRAS (1913), 127—130: ὑπὸ βασιλέα [Κ]ούσαν [ἄρχοντα] ἴδιον τόπον; the most unacceptable change in the text has been made by D. W. MacDowall and N. G. Wilson, NC 7 ser. 10 (1970), 228: ἔθνος Βακτριανῶν, ὑπὸ βασιλέα Κούσαν "Ιδιον ὄντα πάντα. This restoration is then used to find a terminus post quem for the 'Periplus'. I disagree with most aspects of MacDowall's arguments and will return to this problem elsewhere. Suffice it to say that the text of the 'Periplus' as it stands indicates that the Kuṣāṇas are still north of the Hindu Kush.

[462] R. B. Whitehead, Catalogue, Punjab Museum, 1. p. 173.

[463] For fineness of Kuṣāṇa gold see S. K. Maity, The Gold Content of the Kushans, the Kushana Chiefs, and the Sassanian Gold Coins from the Indian Museum, Calcutta, JNSI 20.2 (1958), 162—167; Idem, JNSI 23 (1961), 265. Four gold coins of Kaniṣka analysed by neutron activation contained silver and copper ranging from 1.23 to 2.485%; 5 gold coins of Vasudeva by a similar method 1.29 to 3.39%; see P. Meyers, Non-Destructive Activation Analysis of Ancient Coins using Charged Particles and Fast Neutrons, Archaeometry 11 (1969), 75. Finds of Kuṣāṇa coins beyond the frontiers of their empire, e. g. at Sisupalgarh, 2 copper coins (Kaniṣka and Huviṣka), B. B. Lal, Sisupalgarh 1948: An Early Historical Fort in Eastern India, AI 5 (1949), 98. Three gold coins of Vasudeva found at Kashipur, K. P. Nautiyal, Three Kushana Gold Coins from Kashipur, JNSI 24 (1962), 180—181. In general on finds in Orissa (one apparently unpublished) see S. C. Behera, Origin of the Mathara Dynasty of Kalinga, OHRJ 12.2 (1964), 58. In Bihar Kuṣāṇa copper issues circulated together with local coins, e. g. the Buxar hoard containing 392 Kuṣāṇa and 10 Ayodhya coins, A. S. Altekar, Buxar Hoard of Kushana Coins, JNSI 12.2 (1950), 121—123. At Kumrahar and Bulandibag 54 copper coins (Vima Kadphises

to Huviṣka) were excavated and 2 gold coins (one of Vasudeva) from Ratan Tuta; see A. S. Altekar, Coins in Kumrahar and Bulandibag (Pataliputra). Excavations in 1912 to 1913, JNSI 13.2 (1951), 144—147. In general see P. L. Gupta, Eastern Expansion of the Kuṣāṇa Empire, IHQ 29 (1953), 206—221; Idem, The Date of Kushana Currency in Eastern India, JNSI 15.2 (1953), 185—192.

[464] The absence of Kuṣāṇa coins in Egypt certainly cannot be taken to indicate that the Red Sea route was not used for Indian commerce, as is suggested by U. Monneret de Villard, Le monete dei Kuṣana e l'impero romano, Orientalia n. s. 17 (1948), 213. To my knowledge the only Kuṣāṇa coins found to date in Africa come from the Ethiopian monastery of Debra Damo (100 gold dinars and 5 double dinars from Vima Kadphises to Vasudeva). For the find see B. N. Mukherjee, International Value of Kushana Gold Coinage in Relation to Roman Currency, Congresso Internazionale di Numismatica 2 (1965), 475—478. The preceding study is overlooked by Göbl, who claims to be the first numismatist to have discovered the coins; see R. Göbl, Der Kusanische Goldmünzschatz von Debra Damo (Aithiopien) 1940, CAJ 14.4 (1970), 241—252. The hoard was found in a cave in a non-stratified context. Göbl's conclusions are vitiated by the use of an exceedingly late date for the Kaniṣka era, A.D. 232. (Cf. above pp. 639—640.) Hesychius may contain a reference to an Indian coin: κορσίπιον, νόμισμα παρ' Αἰγυπτίοις τὸ κερσαῖον λεγόμενον, for which see Cunningham, Coins of Alexander's Successors in the East (conclusion), NC n.s. 13 (1897), 218, who suggests the emendation παρὰ Γυπτίοις, a reference to the Gupta dynasty.

[465] Sisupalgarh has yielded an imitation gold Kuṣāṇa coin with a Roman obv., B. B. Lal, AI 5 (1949), 97, 100. Cf. A. S. Altekar, A New Type of Kushanāno (sic)- Roman Coin, JNSI 10 (1948), 77, who suggests that the coin was struck by the Marundas; Idem, A Unique Kushano-Roman Gold Coin of King Dharmadamadhara(?), JNSI 12.1 (1950), 1—4. Sisupalgarh has also yielded four copper Puri-Kuṣāṇa coins: B. B. Lal, AI 5 (1949), 98. For classification of these issues see J. Allan, Catalogue of the Coins of Ancient India (London 1936), cxxi—cxxii, 205—209. For a partial list of Puri-Kuṣāṇa coins found in Bengal, Bihar, Orissa, and Bangladesh: S. P. Singh, Numismatic Evidence of Kushana-Murunda Rule in Eastern India, JNSI 35 (1973), 129—135; for hoards found in Orissa: A. Banerji, Ancient and Mediaeval Coins of Orissa, JNSI 9.2 (1947), 106—110; hoards in Mayurbhanji State, P. Acharya, Ancient Coins from Mayurbhanji, JNSI 2 (1940), 123—125; D. K. Ganguly, The Imperial Kushana Coins and their Imitations in Orissa, JNSI 28 (1966), 6—11; copper imitations from Kausambi: A. S. Altekar, Some New Coins from Kausambi, JNSI 20.2 (1958), 146. Frequently these coins are cast rather than struck; cf. E. H. C. Walsh, 'Puri-Kushan' Coins, JBORS 5 (1918), 73—79 on a hoard of 548 AE from Manikaratna, Puri Dist. Some date the production of these imitations as late as the sixth century, see R. D. Banerji, Notes on Indian Numismatics, JBORS 5 (1919), 83—84.

[466] The early Guptas appear to have imitated a number of late Kuṣāṇa types; see B. N. Mukherjee, Nāna on Lion, 65. Denied by B. S. Sitholey, The Origin of Samudragupta's Standard Type Coin, JNSI 10 (1948), 64—71 with rather facile arguments. Some have argued that the Guptas obtained the bullion for their coinage by melting down the Kuṣāṇa coins circulating in their dominions; so S. R. Goyal, The Attribution of Candragupta-Kumaradevi Coin-Type, INC 4.2 (1965), 105. For the regions conquered from the Kṣatrapas the Guptas struck a silver coinage modelled on that of the previous rulers of the region; B. S. Sitholey, The Art of Gupta Coins, JNSI 10.2 (1948), 120; B. D. Chattopadhyaya, Dates of the Traikutaka Kings of Western Deccan and of Their Coins, NC 7 ser. 9 (1969), 294—295, deals with areas in which Gupta silver coins circulated. Only a single hoard of Gupta gold coins had been found in Gujurat at Kumarkhan, Ahmadabad Dist.; see C. R. Singhal, A Hoard of Gupta Gold Coins found in Gujurat, JNSI 15.2 (1953), 195—196. For the fineness of Gupta gold coins see figures published in: S. K. Maity, The Gold Content of Later Imperial Gupta Coins, JNSI 22 (1960), 266—268. The Later Kuṣāṇas as well as the Hephthalites and Sasanians continued to strike coins bearing similar types to

those of the Dynasty of Kaniṣka; see B. Lahiri, The Coin-Types of the Foreign Successors of the Great Kushānas, JNSI 31 (1969), 122—133.

[467] See the interpretation of this passage in D. W. MacDowall and N. G. Wilson, NC 7 ser. 10 (1970), 234—236. The passage is misunderstood by A. S. Altekar, JNSI 2 (1940), 4, who assumes that silver is exchanged for gold.

[468] So E. H. Warmington, Commerce^{2}, 288—289, and D. W. MacDowall and N. G. Wilson, NC 7 ser. 10 (1970), 236.

[469] For the coinage of both dynasties see above pp. 671—672. Cf. also the observation of Meyers that his studies of the silver and copper content of *aurei* and Kuṣāṇa gold do not support the view that the former were reminted to form the latter: P. Meyers, Archaeometry 11 (1969), 76.

[470] See the analysis of Kṣatrapa silver coins by K. T. M. Hodge, Chemical and Spectrometric Studies in the Kshatrapa Silver Coins, JNSI 29.1 (1967), 63—66, who concludes that, since the trace metal pattern does not match that of the only known local silver mine at Zawar in Rajasthan, the metal used for these coins is of Roman origin. Similar spectrometric studies of Kṣatrapa lead coins led Hodge to conclude that the ore was mined in the Aravalli region; see K. T. M. Hodge, Source of the Metal in the Lead Coins of the Kshatrapa Period, Current Science 37 no. 18 (1968), 518—520.

[471] For coins of Nahapāna see E. J. Rapson, The Coinage of the Mahākṣatrapas and the Kṣatrapas of Surāṣṭra and Mālava (Western Kṣatrapas), JRAS (1899), 358—363, 368 to 369; D. W. MacDowall, NC 7 ser. 4 (1964), 271—273. On Nahapāna see R. Banerji, Nahapāna and the Saka Era, JRAS (1917), 273—289; S. Levi, Kaniṣka et Sātavāhana, JA 228 (1936), 64—73; A. Banerji-Sastri, Sakas and Kuṣāṇas in the I and II centuries, IHQ 13 (1937), 199—208 (who relies heavily on the Purāṇas for his reconstruction); L. de la Vallée-Poussin, L'Inde aux Temps des Mauryas (Paris 1930), 280—287. The coinage of Nahapāna's predecessor, Bhūmaka, is exceedingly rare. See the published examples in the British Museum in E. J. Rapson, The Coins of the Andhra dynasty, the Western Kṣatrapas, the Traikutaka dynasty and the 'Bodhi' dynasty (London 1908), 63—64. For a possible copper coin of Bhūmaka see A. S. Altekar, A Kshaharata(?) Copper Coin, JNSI 12.1 (1958), 5—6. On Bhūmaka see K. P. Jayaswal, Problems of Saka-Sātavāhana History, JBORS 16 (1930), 230.

[472] See E. J. Rapson, JRAS (1899), 370—404. Some idea of the geographic extent of the circulation of Western Kṣatrapa coins can be gained from the list of hoards published by H. V. Trivedi, Western Kshatrapa Coins in the Andhra Pradesh Government Museum, Hyderabad (Hyderabad 1964), vi—vii. The furthest south such a hoard has been found is at Petluripalem, Guntur District, Andhra Pradesh (235 coins; cf. the catalogue, ibid., 1—50).

[473] The fundamental study of the numismatic and epigraphic evidence is A. M. Boyer, Nahapāna et l'ère Çaka, JA 9 ser. 10 (1897), 120—151; cf. E. J. Rapson, JRAS (1899), 370—404. Criticized already by R. Banerji, Nahapāna and the Śaka Era, JRAS (1917), 273—289 who does, however, agree that the coins and inscriptions of Caṣṭana are in the Śaka Era of A. D. 78. The attribution of Kṣatrapa coins to the first century B. C. or early first century of our era seems rather unlikely. For these early dates see K. D. Bajpai, The Joint Issues of the Kshatrapas Hagāna and Hagāmasha, JNSI 25 (1963), 102—103. The best recent study of the chronological problems is A. Maricq, The Date of Kaniṣka, in: Kaniṣka Papers, 193—199. The coins of the Western Kṣatrapas bear figures from 103 to 310 (or even 319); see E. J. Rapson, BMC Andhra Dynasty, p. CXXIV, 192 and Idem, JRAS (1899), 401—402. The end of this dated coinage appears to coincide with the end of the dynasty and the conquest of the area by the Guptas, who issued their own silver coinage here (see above p. 752, n. 466). The precise date of the conquest is not known. The geography of the laconic description of his conquests which Samudragupta gives in the famous Allāhābād pillar is controversial and it is thus uncertain whether the Western

Kṣatrapas were already Gupta subjects before his death (before c. 378/79; cf. Ep. Ind. [1931], 265—267 on an inscription of Chandragupta II in the 61st year of the Gupta era (from A.D. 320). Tradition names his successor as Ramagupta, but some doubt this, e. g. L. de la Vallée-Poussin, Dynasties et histoire de l'Inde depuis Kanishka jusqu'aux invasions musulmans (Paris 1935), 47 and S. Chattopadhyaya, Early History of North India² (Calcutta 1968), 199—202. The Gupta ruler claims to have defeated nine kings in the Northwest and to have made five frontier peoples tributary. See V. Smith, The Conquests of Samudragupta, JRAS (1897), 19—33, 859—910; Idem, Early History of India (Oxford 1924), 299—304; D. R. Bhandarkar, Identification of the Princes and territories mentioned in the Allāhābād Pillar Inscription of Samudragupta, IHQ 1 (1925), 250—260, and G. Ramadas, Kingdoms of the Deccan mentioned in the Allāhābād Pillar Inscription, IHQ 1 (1925), 679—689. The controversy centres on whether the phrase *çakamurunda* (possibly 'Śaka chiefs') refers to the Great Satraps of Ujjain. Certainly the last of Western Kṣatrapa coins suggest unstable conditions. Cf. E. J. Rapson, JRAS (1899), 398—402, who notes that between the years 304—310 there were four Mahákṣatrapas. The final conquest of the Western Kṣatrapas is assured in the reign of Chandragupta II and is dated to A. D. 395 by V. Smith, History, 307. In A. D. 401 we already possess an inscription of a minister of Chandragupta II from Udayagiri in Malawa. The subtraction of 310+ years from the approximate date of the Gupta conquest thus yields a date sufficiently close to A.D. 78, the beginning of the Śaka Era, to make it highly improbable that the Western Kṣatrapas do not use this era on their coins.

[474] The Andhau inscriptions of Rudradāman, the grandson of Caṣṭana, indicate that in the year 52 of the Śaka Era, i. e. A.D. 130, this ruler was in possession of the Rann of Cutch. For the texts see R. Banerji, The Andhau Inscriptions of the time of Rudradāman, Ep. Ind. 16 (1921), 19—25, and Idem, JRAS (1917), 282—286; cf. also S. Chattopadhyaya, The Śakas in India, 66—68; Idem, Early History of North India², 132—133.

[475] The problem of the date of Nahapāna can only be resolved by solving the riddle posed by a number of dated inscriptions. Six of these were cut in a cave near Nasik (giving the dates 41, 42 and 45), two in a cave at Karle, and another (of the year 46) at Junnar. One of the Nasik inscriptions of the year 42 lists the benefactions and deeds of Ṛṣabhadatta, the son-in-law of Nahapāna. The latest of the Nasik inscriptions records a gift to the monks from Dakṣamitra, the daughter of Nahapāna. In the Junnar inscription of the year 46 Ayama, a minister of Nahapāna, records various gifts. The attribution of these texts to the Saka Era was suggested by A. M. Boyer, JA 9 ser. 10 (1897), 120—151 and with variations by E. J. Rapson, BMC Andhra Dynasty, p. l—li. Rejected by R. D. Banerji, JRAS (1917), 273—289 and K. P. Jayaswal, JBORS 16 (1930), 248—250 with a date of 100—58 B.C. Also more recently again A. Maricq, in: Kaniṣka Papers, 193—199. MacDowall ignores the doubts of Banerji and Maricq and assumes that Nahapāna, Caṣṭana and Rudradāman are all using the same era. See D. MacDowall, Implications for Kushan Chronology of the Numismatic Context of the Nameless King, Proc. Dushanbe, 246, 260. In the year 46 or sometime thereafter Nahapāna's kingdom came to an end. In 1906 at Jogalthembi in the Nasik District 13, 250 silver coins came to light. All were struck by Nahapāna and most had been struck over by Andhra types and the legend of Gautamīputra Srī-Satakarṇi. See on this hoard A. S. Altekar, Some Remarks on the Coins of the Andhra Period, JNSI 1 (1939), 13—16. For the possibility that Gautamīputra Satakarṇi also struck silver coinage in his own name, see P. J. Chinmulgund, A New Silver Coin of Gautamīputra, JNSI 9 (1947), 23—24; identification questioned by A. S. Altekar, ibid., 25. Inscriptions from the Nasik caves from the 18th and 24th years of Gautamīputra confirm the gifts of Nahapāna to the monks and grant additional benefactions. The conquests of Gautamīputra and his son Pulumāvi are recorded in the famous Nasik inscription of Queen Gautamī Bala-Srī in the 19th year of the latter's reign. All of these conquests must fall before the Girnar inscription of Rudradāman in the year 72 = A.D. 150. The attribution of the Nasik inscriptions of Nahapāna to the Saka Era is thus mathematically impossible and the entire period of his reign must be placed in the first century of our era.

[476] Periplus c. 41 (= Frisk, p. 14.1—2): Μετὰ δὲ τὸν Βαράκην εὐθύς ἐστιν ὁ Βαρυγάζων κόλπος καὶ ἡ ⟨ἤ⟩π⟨ει⟩ρος τῆς Ἀριακῆς χώρας, τῆς τε Μανβάνου βασιλείας ἀρχὴ καὶ τῆς ὅλης Ἰνδικῆς οὖσα. The identification was first suggested by A. M. Boyer, JA 9 ser. 10 (1897), 134—137; so also C. R. Wilson, Proposed identification of the name of an Andhra king in the Periplus, JASB 72.3 (1904), 272; S. Levi, JA 228 (1936), 71—72; J. A. B. Palmer, Periplus Maris Erythraei: The Indian Evidence as to the Date, CQ 41 (1947), 137; J. L. Trabold, Artibus Asiae 32 (1970), 64—65; B. N. Mukherjee, Kanishka I and the Deccan (Calcutta 1968), 104—105, who emends Periplus 41 to Νανβάνου; D. W. MacDowall and N. G. Wilson, NC 7 ser. 10 (1970), 237—238.

[477] See J. Bloch, Sur quelques transcriptions de noms Indiens dans le Périple de la mer Erythrée, in: Mélanges d'Indianisme offerts par ses élèves à M. Sylvian Levi (Paris 1911), 4. Mukherjee suggests a king mentioned in a Jain text, Nabhovāhana and another Nahavāhaṇa who fought the Sātavāhanas and who may be identified with Nahapāna; see B. N. Mukherjee, An Agrippan Source, 48, 58 n. 55; cf. also K. P. Jayaswal, JBORS 16 (1930), 249, 282—284.

[478] The 'Periplus' cannot be later than A.D. 70. See the discussion of the date above pp. 663—665; cf. B. N. Mukherjee, Kaniṣka I, 105, who places the first year of Nahapāna between A.D. 48/49 and 58/59: cf. D. W. MacDowall and N. G. Wilson, NC 7 ser. 10 (1970), 238, who suggest an accession date of c. A.D. 95. The latter is clearly impossible, see above n. 473.

[479] As is done by J. A. B. Palmer, CQ 41 (1947), 137—140 with the date A.D. 110—115.

[480] So correctly J. L. Trabold, Artibus Asiae 32 (1970), 65—73. Cf. the calculations of B. N. Mukherjee, Kanishka I, 102—103, which cannot be accepted until the reading on the new Caṣṭana inscription has been assured. A strong Roman influence has long been noted on the obverses of the coins of Nahapāna; so Fleet, JRAS (1913), 918. But cf. S.V. Sohoni, Nahapana's Portrait — A Study, INB 2.2 (1961), 276—278,who compares Indo-Greek coins.

[481] See above pp. 665—667 for other variables which may have influenced the discovery of Roman coins in Northwest India.

[482] V. D. Zhukov, Nakhodka sestertsiia Nerona v Kushanskikh sloiakh v iuzhnom Uzbekistane, EV 13 (1960), 125—127; L. I. Al'baum, Balalyktepe. K istorii material'noi kul'tury i iskusstva Tokharistana (Tashkent 1960), 43. The building in which the *sestertius* of Nero was discovered is attributed to the Kuṣāṇa period; see V. D. Zhukov, Arkheologicheskaia razvedka na Shakhristane Khairabad-tepe, in: Istoriia material'noi kul'tury Uzbekistana 2 (1961), 184—185. The find = V. V. Kropotkin, Klady rimskikh, no. 1679.

[483] E. V. Zeimal', Klad rimskikh denariev iz Tadzhikistana, NE 3 (1962), 141—146: 19 *denarii* of the second century, 1 Vespasian, 1 Trajan, 4 Hadrian, 8 Antoninus Pius, 2 Marcus Aurelius, 3 Commodus.

[484] M. E. Masson, Po povodu neskol'kikh monetnykh nakhodok, zaregistrirovannykh na territorii kazakhstana do 1947 goda, VANKazSSR (1948), 7.56—57 = V. V. Kropotkin, Klady rimskikh, no. 1674: a *denarius* of Aurelian.

[485] For earlier finds see V. V. Kropotkin, Klady rimskikh, no. 1680: 19 bronze coins (1 Vespasian, 1 Trajan, 3 Plotina, 1 Hadrian, 3 Antoninus Pius, 7 Marcus Aurelius, 1 Lucilla, 1 Severus Alexander) possibly from Alma-Ata. A *denarius* of Vespasian and another of Hadrian in the collection of A. M. Brodskogo were reportedly found at Issyk-Kul. See M. E. Masson, Neopublikovannye monetnye nakhodki, zaregistrirovannye na territorii Kirgizskoi SSR do 1947 goda, TIIALIKirFANSSR 2 (1948), 135—136. Other finds listed by Kropotkin are either of unknown provenience (e. g. no. 1682) or from the fourth or fifth centuries (nos. 1675—1678, 1681—1684). An *antoninianus* of Traianus Decius was purchased in Cabul by Scerrato, but there is no reason to see this as the product of

ancient commerce, see U. Scerrato, On a Silver Coin of Traianus Decius from Afghanistan, E&W n. s. 13.1 (1962), 17—20. Also a silver mirror bearing a portrait of Domitian and the inscription ΕΥΠΟΡΟΥ apparently found in Iran and now in Foroughi collection in Teheran; see publication by M. Taddei, On a Silver Mirror with Portrait of Domitian from Northern Iran, E&W n. s. 17 (1967), 41—50. Further north in Central Asia it is reported that Roman *aurei* were found at the same unknown sites which yielded the animal-style gold plaques of the Peter the Great Collection; see M. Rostovtzeff, Aréthuse fasc. 3 (April, 1924), 85; E. Dittrich, ZDMG 111 (1961), 499; rejected by B. Karlgren, BMFEA 9 (1937), 99.

[486] But the last types of Himyarite coins bear a head on the obverse which is remarkably similar to that of Augustus; B. V. Head, On Himyarite and other Arabian Imitations of Coins of Athens, NC 2 ser. 18 (1878), 280, 282—283 (17 drachms and fractions from the San'a hoard). Cf. G. F. Hill, The Ancient Coinage of Southern Arabia, PBA (1915), 63—64. It has also been suggested that the standing eagle on the reverse of some copper coins attributed to the Hadhramaut resembles that on the reverse ot Alexandrian issues of the second century (esp. R. S. Poole, BMC, Alexandria and Nomes, pl. XXV no. 662 and G. Dattari, Numi Augg. Alexandrini [Cairo 1901], nos. 1191 and 1570). See coins published by J. Walker, A New Type of South Arabian Coinage, NC 5 ser. 17 (1937), 260—279 with a second century date based on comparison with the coins of Antioch and Alexandria.

[487] Periplus c. 39 (= Frisk, p. 13.7—9): Προχωρεῖ δὲ εἰς τὸ ἐμπόριον (Βαρβαρικόν) . . . . πολύμιτα καὶ χρυσόλιθον καὶ κοράλλιον καὶ στύραξ καὶ λίβανος καὶ ὑαλᾶ σκεύη καὶ ἀργυρώματα καὶ χρῆμα, οἶνος δὲ οὐ πολύς.
Periplus c. 49 (= Frisk, p. 16.20—28): Προχωρεῖ δὲ εἰς τὸ ἐμπόριον (Βαρύγαζα) οἶνος προηγουμένως Ἰταλικὸς καὶ Λαοδικηνὸς καὶ Ἀραβικὸς καὶ χαλκὸς καὶ κασσίτερος καὶ μόλυβος, κοράλλιον καὶ χρυσόλιθον, ἱματισμὸς ἁπλοῦς καὶ νόθος παντοῖος, πολυμίται ζῶναι πηχυαῖαι, στύραξ, μελίλωτον, ὕελος ἀργή, σανδαράκη, στῖμι, ... Τῷ δὲ βασιλεῖ κατ᾽ ἐκείνους τοὺς καιροὺς εἰσφερόμενα βαρύτιμα ἀργυρώματα καὶ μουσικὰ καὶ παρθένοι εὐειδεῖς πρὸς παλλακείαν καὶ διάφορος οἶνος καὶ ἱματισμὸς ἁπλοῦς πολυτελὴς καὶ μύρον ἔξοχον.

[488] The Taxila evidence is crucial in this matter. Marshall stresses the survival of Greek art and architecture. In the period of Śaka dominance Hellenism appears to diminish but Greek influence flourished again in the Parthian period; see J. Marshall, Taxila, 1.42—43, 56—57, 65—66, 133—134. The artifacts from the Parthian levels at Sirkap are particularly rich in Greek or Graeco-Roman material. For example, the vast majority of the gold and silver jewellery from Sirkap is considered by Marshall to be Greek or Graeco-Roman in character in both style and manufacturing technique; ibid., 2.616—632. Similarly most of the silverware which was so plentiful in the Parthian period is of Hellenistic form, as were artifacts of bronze and copper and the ornamental stone toilet-trays; J. Marshall, Taxila, 2.493—498, 575—615. Also on the survival of Hellenistic art side by side with Parthian, see L. Bachhofer, On Greeks and Sakas in India, JAOS 61 (1941), 224—226. Cf. results of subsequent excavations at Sirkap: A. Ghosh, Taxila (Sirkap) 1944—45, Ancient India 4 (1947/48), 42—45. For the survival of the city goddess on the coins of Taxila after the Parthian conquest, see G. K. Jenkins, Indo-Scythic Mints, JNSI 17.2 (1955), 18. Gnoli in a study of the Western elements in the sculptures of the Swat Valley also suggests that the influence of Hellenism was much stronger under the Parthians than under the Kuṣāṇas; so G. Gnoli, The Tyche and the Dioscuri in Ancient Sculptures from the Valley of Swat, E&W n. s. 14 (1963), 29—36.

[489] In general on survival of Greek influence in Bactria, the immediate home of the Kuṣāṇas, see F. Altheim, Der Hellenismus in Mittelasien, Saeculum 1 (1950), 296—297, 299—301; R. D. Barnett, The Art of Bactria and the Treasure of the Oxus, Iranica Antiqua 8 (1968), 52—53. For continued existence of Greek culture in Afghanistan see K. Fischer, Ἀλεξανδρόπολις μητρόπολις Ἀραχωσίας: Zur Lage von Kandahar an Landverbindungen zwischen Iran und Indien, BJ 167 (1967), 224—227. See also the statement of Isidorus of Charax in his Σταθμοὶ Παρθικοί c. 19: Ἀλεξανδρόπολις μητρόπολις

Ἀραχωσίας (= Kandahar, so Fischer above), ἔστι δὲ Ἑλληνίς ... This increases in significance if one accepts the date of Isidorus (traditional date is just before the Christian era, so W. H. Schoff, Parthian Stations, 17; W. W. Tarn, GBI^2, 53—55; E. Herzfeld, AMI 4.1 [1931], 3—8) put forward by S. A. Nodelman, A Preliminary History of Characene, Berytus 13.2 (1960), 107—108: late first century. Accepted by F. Millar, Paul of Samosata, Zenobia and Aurelian: The Church, Local Culture and Political Allegiance in Third-Century Syria, JRS 61 (1971), 3. A date before 1 B.C. is argued (without reference to Nodelman) by B. N. Mukherjee on the basis of this very same passage, see: An Agrippan Source, 47, 211—215.

[490] For Aï Khanoum see in general P. Bernard, Aï Khanum on the Oxus: A Hellenistic City in Central Asia, PBA 53 (1967), 71—95. For the excavation results see P. Bernard and D. Schlumberger, Aï Khanoum, BCH 85 (1965), 590—651; P. Bernard, Première campagne de fouilles d'Aï Khanoum, CRAI (1966), 127—133; Idem, Deuxième campagne ..., CRAI (1967) 306—324; Idem, Troisième Campagne..., CRAI (1968), 263—279; Idem, Quatrième campagne ..., CRAI (1969), 313—355. Bernard prefers a date of c. 100 B.C. for the final destruction of the city by fire. See also L. Robert, De Delphes à l'Oxus, CRAI (1968), 416—457. Most recently on this text H. W. Pleket, Grieken in den vreemde: Een Griekse Inscriptie uit Afghanistan, Hermeneus 46.3 (1974/75), 138—140. The remains of an ivory chair showing Hellenistic workmanship have also been found at the site, see P. Bernard, Sièges et lits en ivoire d'époque hellénistique en Asie Centrale, Syria 47 (1970), 327—343, pl. XX. See also, on parallels from the Kuṣāṇa and Sogdian periods, A. M. Belenitskii, Zoomorfnye tronye v izobrazitelnom iskusstve Srednei Azii, IOONANTadzhSSR no. 28 (1962), 14—28. Although most of the architecture on the site is in brick, the Corinthian capitals are similar to those found in contemporary structures in Greece and Hellenized areas of Asia Minor and the Near East, see P. Bernard, Chapiteaux corinthiens hellénistiques d'Asie Centrale découverts à Aï Khanoum, Syria 45 (1968), 114—129 (suggests a second century B.C. date for the Aï Khanoum peristyle court). See also the discussion of the 'Hellenistic' elements in the new sculptured finds from the 1966—67 excavations at Tepe-Chotor near Hadda by C. Mustamindy, Les nouvelles fouilles de Hadda, Proc. Dushanbe, 108—109. For Graeco-Bactrian material from Central Asia see K. V. Trever, Pamiatniki greko-baktriiskogo iskusstva (Moscow/Leningrad 1940), 1—44, a general discussion of Bactrian-Greek material culture. Much of the catalogue (e. g. nos. 1—41) deals with coins — silverware, and goldware from the high period of Greek culture in Central Asia (third and second centuries B.C.). More important from our point of view are the stone reliefs (nos. 54—61, pls. 45—49) of the second to first century B.C., from Airtam. For details and first century B.C. date of no. 60 (a relief of a woman with a harp) from Airtam, see K. V. Trever, Rel'ef zhenshchiny s arfoi, in: Sokrovishcha Ermitazha (Moscow/Leningrad 1949), 103—106.

[491] See the clay ascus, found at Termez, with a Bacchic scene which bears a remarkably close resemblance to the Borghese Vase in the Louvre. Pugachenkova suggests that the work was produced by Bactrian craftsmen with the aid of imported Graeco-Roman dies; see G. A. Pugachenkova, Sosud iz Termeza s vakkhicheskoi stsenoi, VDI (1951), 1. 128—136 with a date in the first century of our era; G. A. Pugachenkova and L. Rempel, Istoria iskusstv Uzbekistana s drevneishikh vremen do serediny deviatnadt satogo veka (Moscow 1965), 79—80, pls. 77 & 78; cf. B. A. Litvinskii and N. O. Tursunov, Leninabadskii krater i luvrskaia vasa sosibiia (Neoatticheskoe iskusstvo i Sredniaia Aziia), VDI (1971), 3. 102—104. For influence of such imported dies see G. M. A. Richter, Ancient Plaster Casts of Greek Metalware, AJA 62.4 (1958), 369—377, and Idem, The Sculpture and Sculptors of the Greeks^4 (New Haven 1970), 245. For finds of similar clay moulds for casting silver ornaments in Dacia see I. H. Crisan, Contributii la problema lucrarii podoabelor dacice, AMN 6 (1969), 93—108 (Ger. rés.). For a gilt bronze phalera from Dushanbe depicting Dionysus in relief see K. V. Trever, Bronzovyi falar, naidennyi v Stalinabade, SRIKM 3 (1958), 24—29 and Idem, Baktriiskii bronzovyi falar s izobrazheniem Dionisa, TGE 5 (1961), 98—109 with a date of first century B.C. or first century of the present era. A crude pottery statuette of Laocoon has been found at Zar-tepe in

Southern Uzbekistan, L. I. AL'BAUM, K istorii material'noi Kul'tury i iskusstva Tokharistana (Tashkent 1960), 23—25, pl. 11; cf. G. FRUMKIN, Archaeology on Soviet Central Asia VI: Uzbekistan, Excluding Khorezm, CAR 13 (1965), 243. Recently a crater found at Leninabad was published which bears a close resemblance to the Sosibios vase of the first century B.C. The crudeness with which the figures on the Leninabad crater are handled suggests that it is a local imitation. See B. A. LITVINSKII and N. O. TURSUNOV, VDI (1971), 3. 92—106, pls. 1—5.

In all of the above works local craftsmanship is suggested by the failure properly to depict the cut of Greek dress or to understand the mythological significance of the scene portrayed. For Hellenized terracottas of the late Greek and Kuṣāṇa period from Central Asia see V. A. MESHKERIS, Terrakoty Samakandskogo muzeia. Katalog (Leningrad 1962), 20—32, 57—75, and IDEM, Kollektsiia terrakot muzeia istorii AN Uz SSR, IOONANTadzhSSR no. 47 (1967), 80—94. See also the gold medallion with a Greek-looking head (possibly Artemis) from kurgan 6 at Liavandak (second or first century of the present era): O. V. OBEL'TSENKO,Liavandakskii mogil'nik, IMKUz 2 (1961), 157—159.

[492] Opinion here is by no means unified either about the date of Gandhara sculpture or about the importance of the survival of Greek art in Bactria and Northwest India. In general the school which favours the view of Gandhara sculpture as Graeco-Buddhist art argues for an earlier chronology, although opinion on this matter diverges considerably. The earliest advocate was A. FOUCHER, The Beginnings of Buddhist Art and Other Essays in Indian and Central Asian Archaeology (London/Paris 1917), 85, 93; IDEM, La vieille route de l'Inde de Bactres à Taxila (Paris 1947), 309—310, 321—323, 340—341, who suggests that Gandhara sculpture began c. 75 B.C. and that it originated as a phenomenon of Northwest India, since Greek art did not develop in Bactria. Although few would agree with FOUCHER's chronology or his rejection of the existence of Graeco-Bactrian art, the view of Gandhara art as Graeco-Buddhist art has many supporters in Europe and in the Soviet Union, e. g. K. V. TREVER, Pamiatniki greko-baktriiskogo iskusstva, 156; L. BACHOFER, JAOS 61 (1941), 223—230; D. SCHLUMBERGER, Surkh Kotal, Antiquity 33 (1959), 84—86 and B. G. GAFUROV, Kushan Civilisation and World Culture, in: Proc. Dushanbe, 74—75, 78—79, who has a summary of the case. See particularly the important study of D. SCHLUMBERGER, Descendants non-Mediterranéens de l'art grec, Syria 37 (1960), 131—131, 136—139, 142—166, 310—318: »*entre l'hellénisme de Kanishka et la Bactriane des Grecs, il existe un lien au moins, un lien incontestable*« (p. 151). SCHLUMBERGER, while conceding the possible influence of Roman Imperial art in Northwest India and stressing the importance of various Iranian elements, emphasizes the debt of Kuṣāṇa art (including both Gandhara and Mathura) to the Greeks of Bactria. Cf. V. M. MASSON, in: La Persia e il Mondo Greco-Romano, 374 less certain, concedes the possibility of Roman influence and B. IA. STAVISKII, Sredniaia Aziia, Indiia, Rim, in: V. V. STRUVE, Indiia v drevnosti (Moscow 1964), 174—175.

The great Iranian monument found at Surkh Kotal is Iranian in plan and conception but certain architectural features and the ornamentation are noticeably Greek in origin. See reports in: D. SCHLUMBERGER, Le temple de Surkh Kotal en Bactriane, JA 240 (1952), 433—453; IDEM, JA 242 (1954), 161—187; IDEM, JA 243 (1955), 269—279; IDEM, Antiquity 33 (1959), 81—86; cf. for a different interpretation of the monument, K. JETTMAR, Zum Heiligtum von Surkh-Kotal, CAJ 5.3 (1960), 198—204. Cf. on chronology and phases of construction D. SCHLUMBERGER, Le temple de Surkh Kotal en Bactriane (IV), JA 252 (1964), 318—323. MARICQ suggested that the complex was a sepulchre and dynastic sanctuary rather like that of Antiochus I of Commagene at Nemrud Dagh and that both it and Surkh Kotal reflect the influence of Seleucid ideas; so A. MARICQ, La grande inscription de Kaniska et l'Étéo-Tokharien, l'ancienne langue de la Bactriane, JA 246 1958), 371—372.

[493] See already V. A. SMITH, Graeco-Roman Influence on the Civilisation of Ancient India, JASB 58 (1889), 107—201; IDEM, JRAS (1903), 49—55 with revised chronology. This argument takes two forms. Some maintain on the basis of the similarity of some aspects

of Gandhara art to that of Syria and Palmyra that such influence arrived by way of the overland caravan trade. (Here, of course, chronological differences again exist.) So H. Seyrig, Ornamenta Palmyrena Antiquiora, Syria 21 (1940), 305; H. Buchtal, The Common Classical Sources of Buddhist and Christian Narrative Art, JRAS (1943), 137—148; Idem, The Western Aspects of Gandhara Sculpture, PBA 31 (1945), 151—176 stressing affinity with early Imperial Roman Art; J. Ward-Perkins, The Roman West and the Parthian East, PBA (1965), 175—184, 199; cf. H. Ingholt, Gandharan Art in Pakistan (New York 1957), 25—28, who stresses the influence of the art of Hatra, Characene and Sasanian Persia. Others emphasize the influence of Egypt by way of the sea-route to Northwest India. See particularly R. E. M. Wheeler, Romano-Buddhist Art: an Old Problem Restated, Antiquity 23 (1949), 4—18, who emphasizes in particular the use of stucco as a medium for sculpture and Alexandria as the "creative centre of this stucco art." This is, in fact, an error. Around both Palmyra and Dura gypsum is used in art. See in general Comte du Mesnil du Buisson, Les tessères et les monnaies de Palmyre (Paris 1962), 19. For use of stucco in the temple of Baalshamin see P. Collart, Le Sanctuaire de Baalshamin, AAS (1957), 77, fig. VI.3. For use at Dura see F. Cumont, Fouilles de Doura-Europos (Paris 1926), 217—218; *«Doura-Europos était vraiment la ville de gypse«*. See also M. Taddei, Harpocrates-Brahma-Maitreya: A Tentative Interpretation of a Gandharan Relief from Swat, DArch 3.3 (1969), 366—368 on the basis of the sculpture from Butkara I; B. Rowland, A Revised Chronology of Gandhara Sculpture, Art Bulletin 18 (1936), 387—400; Idem, The Vine-Scroll in Gandhara, Artibus Asiae 19 (1956), 353—361, who from a comparison with a similar motif suggests the Gandhara relief is the product of Roman craftsmen. Cf. also the alleged influence of Roman ideas on Gupta art again supposed to be transferred by 'refugees' from the Roman Empire. See H. Goetz, Imperial Rome and the Genesis of Classical Indian Art, E&W n. s. 10 (1959), 261—268. The controversy over the genesis of Gandhara art cannot be easily resolved. As I pointed out above, the new excavations in Afghanistan and Soviet Central Asia tend to confirm the views of French scholars about the survival of Greek elements in Bactria. But imports also played a role. The imitations of the Sosibios vase and the Laocoon noted above both fall into this latter category. Cf. on the former M. Bieber, The Sculpture of the Hellenistic Age^2 (New York 1961), 183, who concludes from the frequent repetition of the types of figures on the Sosibios vase in other reliefs that such figures were in the picture-books used in Neo-Attic workshops.

[494] E. g. from Sirkap at Taxila (destroyed by or before Kujula Kadphises) a single imported amphora, see R. E. M. Wheeler, AI 2 (1945/46), 45. J. Marshall describes a considerable number of iron objects from Sirkap as imports of the early Roman period or imitations of imports: Taxila, 2. 542—544, nos. 24—25, 33—35, 37—38, 54. Almost all of the copper, bronze, and lead is said to be copied from Greek originals or Graeco-Roman imports: Taxila 2. 575—606, e. g. nos. 298—300, 303—304 (described as imports); no. 417 (bronze statuette of Harpocrates); 419 (copper relief of winged Eros or Harpocrates). A pair of amphora-shaped earrings of a type usually attributed to Egypt or Syria (cf. J. Marshall, Taxila 2. 620—621 for similar finds from Sirkap) were found in kurgan 6 at Liavandak, O. V. Obel'tsenko, IMKUz 2 (1961), 156, fig. 15 (cf. V. P. Shilov, Kalinovskii kurgannyi mogil'nik, MIA 60 [1959], 463, fig. 51 for similar earrings from a Sarmatian burial at Kalinovka on the Volga). Also similar gold earrings from a Kuṣāṇa period burial ground at Aruktau, A. M. Mandel'shtam, Mogil'nik Aruk-Tau v Bishkendskoi doline (Iuzhnyi Tadzhikistan), KSIIMK 76 (1959), 78—79, fig. 34.1 and from Tulkhar, A. M. Mandel'shtam, Arkheologicheskie raboty v Bishkentskoi doline v 1957g, TAN-TadzhSSR 103 (1959), 147. Faience earrings and pendants said to be of Egyptian origin have been found at Dzhanbas-kala, Bazar-kala and Toprak-kala in Choresmia. See S. P. Tolstov, Po sledam drevnekhorezmiiskoi tsivilizatsii (Moscow/Leningrad 1948), 118—119; 156, fig. 36b.11; Idem, Drevnii Khorezm, 118, fig. 60, and S. A. Trudnovskaia, Ukrasheniia pozdneantitsnogo Khorezma po materialam raskopok Toprak-kala, TKAEE 1 (1952), 127. Other examples are collected in B. Ia. Staviskii, in: Indiia v drevnosti, 176—181. To which add the local imitation of an imported statuette of Harpocrates found

in a Kuṣāṇa period grave in the Farhad gorge. See B. BRENTJES, A Figurine of Harpocrates from the Ferghana Valley, E&W n. s. 21 (1971), 75, fig. 1.

[495] See reports in J. HACKIN and J. R. HACKIN, Recherches archéologiques à Begram, Chantier no. 2 (1937), MDAFA 9 (Paris 1939), 11—119, and J. HACKIN, in: Nouvelles recherches archéologiques à Begram (ancient Kapici) (1939—1940), MDAFA 11 (Paris 1954), 11—14. For the identification of Begram with the Kuṣāṇa capital of Kapisa, see A. FOUCHER, La Nicée d'Afghanistan, CRAI (1939), 435—440.

[496] J. HACKIN and J. R. HACKIN, Recherches, 10—14.

[497] Ibid., passim.

[498] So E. ELISSEEFF, Les lacques Chinois de Begram, in: Nouvelles Recherches, 151, 155.

[499] So J. HACKIN and J. R. HACKIN, Recherches, 15—19. R. E. M. WHEELER, Roman Contact with India, Pakistan and Afghanistan, in: W. F. GRIMES (ed.), Aspects of Archaeology in Britain and Beyond (London 1951), 347. See also on the ivories P. STERN, Les ivoires et os découverts à Begram. Leur place dans l'évolution de l'art de l'Inde, in: Nouvelles recherches, 41—54. More generally see J. AUBOYER, La vie privée dans l'Inde ancienne d'après les ivoires de Begram, in: Nouvelles Recherches, 59—82, and IDEM, Private Life in Ancient India as seen from the Ivory Sculptures of Begram, Marg 24.3 (1971), 47—54; see also the brief note on Iranian influence by J. HACKIN, Incised and Carved Ivory Plaques from Begram, Afghanistan, BII 6. 1/4 / 7.1 (1946), 20—21. STERN's attribution of the ivories to the first and second centuries of our era on the basis of stylistic comparisons with other insecurely dated Indian stone reliefs has recently been challenged by J. LE ROY DAVIDSON. The latter argues that on the basis of new finds from Amaravati the Begram ivories should be assigned to the first century B.C.; see J. LE ROY DAVIDSON, Begram Ivories and Indian Stones, Marg. 24.3 (1971), 31—45. (But the method of comparing motifs on stone with those done in ivory is not one which inspires confidence in the accuracy of the results.) A study of the known early sculpture and relief work in ivory from the Maurya Sunga and Kuṣāṇa periods may be found in M. CHANDRA, Ancient Indian Ivories, BPWM 6 (1957/59), 15—36. CHANDRA accepts (p. 35) STERN's date for the Begram Ivories. Epigraphic evidence for the location of ivory-carving shops comes from an inscription at Sanchi which refers to the ivory-carvers of Vidisā; see G. BUHLER, Votive Inscriptions from the Stupas at Sānchi, EpInd 2 (1892/94), 92, and B. N. PURI, Some Aspects of Economic Life in the Kuṣāṇa Period, IC 12.1 (1945), 86.

[500] See R. E. M. WHEELER, in: Aspects of Archaeology, 349. For the popularity of Harpocrates in Egypt see the find of 55 Ptolemaic bronzes, mostly of Harpocrates, found at Athribis: I. KUMEL, A Bronze Hoard at Athribis, ASAE 60 (1968), 65—71; statuettes of Harpocrates in basalt and in terracotta have been found at El-Minchah, see A. H. ZAYED, Some Antiquities found at El-Minchah in 1959, ASAE 57 (1962), 134—136 and terracotta statuettes are numerous in the collection of Romano-Egyptian antiquities of ERNST VON SIEGLIN, see J. VOGT (E. VON SIEGLIN, ed.), Die griechisch-ägyptische Sammlung Ernst von Sieglin, Vol. 2 Terrakotten, Expedition Ernst von Sieglin. Ausgrabungen in Alexandria, Vol. 2.2 (Leipzig 1924), 8—14. Statues of Harpocrates found in the West are also attributed to Alexandria, see L. RICHARD, Un Harpocrate de bronze en provenance de Corseul, ABret 75 (1968), 203—211. Such statues of Harpocrates were imitated in Central Asia; see, for example, the figurine found in a grave of the Kuṣāṇa period in the Farhad gorge in the Ferghana Valley: B. BRENTJES, E&W n.s. 21 (1971), 75, fig. 1.

[501] J. HACKIN and J. R. HACKIN, Recherches, 10 suggest a date as late as the fourth century for some of the glass. Cf. O. KURZ, Begram et l'occident gréco-romain, in: Nouvelles recherches, 101—103, 108, 145—147, 150, who attributes all of the glass vessels to the first century and Alexandria.

[502] J. HACKIN and J. R. HACKIN, Recherches, nos. 156 (goblet of colourless glass); 157 (bowl of glass); 158 (glass rhyton, fig. 7); 159 (millefiori plate, figs. 9—10); 161 (part of a small

glass vase); 184 (fish-shaped vessel of blue glass, fig. 26); 197 (painted goblet, figs. 29—32); 199 (fragments of a painted goblet with a gladiatorial scene, fig. 33); 201 (a painted goblet with a gladiatorial scene, figs. 35—36); and 203 (fragments of a *diatretum* vase showing a lighthouse, figs. 37—40). An extensive survey of the glass may be found in P. HAMELIN, Sur quelques verreries de Begram, Cahiers de Byrsa 2 (1952), 11—25; IDEM, Matériaux pour servir à l'étude des verreries de Bégram, ibid. 3 (1953), 121—129; 4 (1954), 153—183.

[503] So first H. SEYRIG, Inscriptions grecques de l'Agora de Palmyre, Syria 22 (1941), 262, n. 2; R. E. M. WHEELER, in: Aspects of Archaeology, 349; C. PICARD, Sur quelques représentations nouvelles du Phare d'Alexandrie et sur l'origine Alexandrine des paysages portuaires, BCH 76 (1952), 67—78, figs. 2 and 3; O. KURZ, in: Nouvelles recherches, 101, 108; F. COARELLI, The Painted Cups of Begram and the Ambrosian Iliad, E&W n.s. 13 (1962), 317, and cf. the discussion produced by the appearance of a Byzantine mosaic of A.D. 539 from Gasr el-Lebia in Cyrenaica. R. GOODCHILD, Helios on the Pharos, AntJ 41 (1961), 218—223, who warns (p. 223) that since port-scenes were a favourite theme of Roman art, precise topographical identification is a dangerous task.
The bronzes in the Begram hoard are also attributed to Alexandria, see F. COARELLI, Nuovi elementi per la cronologia di Begram: cinque recipienti bronzei in forma di busto, ArchClass 13 (1961), 175—178. So also a plaster medallion from the treasure: C. PICARD, Un thème alexandrin sur un médaillion de Begram: la cuisson symbolique du porc, BCH 79 (1955), 509—527. The use of the bronze artifacts in the hoard for dating purposes is difficult, since bronze vessels and utensils could remain in use longer than most other types of objects in the hoard; cf. the observation of E. R. KNAUER, Bronzekelle mit beweglichem Griff, BerMus 19.2 (1969), 58.

[504] So F. FREMERSDORF, Germania 27 (1943), 200—201; J. WERNER, Zu altkaiserzeitlichen Glasbechern (EGGERS Form 185—187), Germania 31 (1953), 63; R. E. M. WHEELER, in: Aspects of Archaeology, 347—349; A. ADRIANI, Le scoperte di Begram e l'arte Alessandrina, ArchClass 7 (1955), 124—133; F. COARELLI, Su alcuni vetri dipinti scoperti nella Germania Indipendente e sul commercio Alessandrino in Occidente nei primi due secoli dell'Impero, ArchClass 15 (1963), 61—85. See also the study of the painted cups from Begram by F. COARELLI, E&W n.s. 13 (1962), 317—326, figs. 1—10, 12, 15—17, 21, who proposes a date in the second century. Two fragments of a painted bowl were found in the excavations of Oxyrhynchus in 1904/05 by GRENFELL and HUNT, see D. B. HARDEN, Roman Glass from Karanis (Ann Arbor 1936), 100, fig. 2b. For similar glass goblets from Algeria with a gladiator scene, see P. HAMELIN, Gobelet de verre émaillé du Musée d'Alger, Libyca 3 (1955), 87—94, pls. I—III.

[505] So F. COARELLI, E&W n.s. 13 (1962), 321—326. Some neo-Egyptian motifs — see e. g. P. HAMELIN, Cahiers de Byrsa 4 (1954), 160—161, no. 11, pls. XXIV 7 XXV: a painted goblet — are also common in mosaics and wall-paintings in Italy.

[506] Strabo XVII.1.13: μόνη γὰρ ἡ 'Αλεξάνδρεια τῶν τοιούτων ὡς ἐπὶ τὸ πολὺ καὶ ὑποδοχεῖον ἔστι καὶ χορηγεῖ τοῖς ἐκτός. Earlier in the same passage he refers to Alexandria as μέγιστον ἐμπόριον τῆς οἰκουμένης. Also H.A. Quadr. tyr. 8 (on Alexandria): *civitas opulenta, dives, fecunda, in qua nemo vivat otiosus. alii vitrum conflant, aliis c⟨h⟩arth[h]a conficitur, omnes certe linifiones ⟨aut⟩ cuiuscumque artis et ⟨professionis⟩ videntur; et habent podagrosi, quod agant, habent prae⟨cisi⟩, quod agant, habent caeci, quod faciant, ne chiragrici quidem apud eos otiosi vivunt. unus illis deus nummus est. hunc Christiani, hunc Iud⟨a⟩ei, hunc omnes venerantur et gentes.* The context is problematical. The passage appears as a letter from Hadrian to Servianus allegedly cited from the book of the former's freedman, Phlegon. Its stylistic qualities have led some to accept the document as authentic. See H. BARDON, Les empereurs et les lettres latines d'Auguste à Hadrien (Paris 1940), 398—400 (*«le style de la lettre porte la marque d'Hadrien»*); cf. the scepticism of E. HOHL, Über den Ursprung der Historia Augusta, Hermes 55 (1920), 305, and J. GEFFCKEN, Religionsgeschichtliches in der Historia Augusta, ibid., 288, who consider the letter as anti-Christian or anti-Egyptian polemics. Cf. now R. SYME, Emperors and Biography: Studies in the Historia Augusta (Oxford 1971), 18—19, who regards the letter

as a work of fiction, and also his lengthy discussion of the tract in: Ammianus and the Historia Augusta (Oxford 1968), 60—68 with the suggestion that the letter was composed c. A.D. 395 as an attack on the Egyptians, cf. A. MOMIGLIANO, Ammiano Marcellino e la Historia Augusta (a proposito del libro di RONALD SYME), AAT 103 (1969), 423—436. Also more remotely on Alexandria's famed wealth, Diod. XVII. 52.2 and Dio Chrys. XXXII. 35—36.
For the extensive port facilities of the city see M.-L. BERNHARD, Topographie d'Alexandrie et la Mausolée d'Auguste, RA 6 ser. 47 (1956), 129—130; A. BERNAND, Alexandrie la Grande, 260—267; J. DU PLAT TAYLOR (ed.), Marine Archaeology (New York 1966), 160—161.

[507] In general on industry in Alexandria see T. REIL, Beiträge, 37, 41—42, 47—50, 50—51, 149; E. BRECCIA, Alexandrea ad Aegyptum (Bergamo 1914), 32—33; F. CUMONT, L'Egypte des astrologues (Paris 1937), 92—99; E. LEIDER, Der Handel von Alexandreia, 14—16; M. ROSTOVTZEFF, SEHHW 1. 367—380; 3. 1406—1413; IDEM, SEHRE I. 73—75; A. C. JOHNSON, Roman Egypt, 335—342; A. BERNAND, Alexandrie la Grande, 267—277; P. M. FRASER, Ptolemaic Alexandria (Oxford 1972), 1. 135—143; 2. 238—251; F. CUMONT, L'Égypte des astrologues (Bruxelles 1937), 86—112. See also below n. 509 and n. 992. For summary of the results of the excavations in the cemeteries around Alexandria see E. BRECCIA, Alexandrea, 73—141. Most of our evidence for the products of Alexandria's workshops comes from nineteenth and early twentieth century excavations in the cemeteries around the ancient city. Many of the publications are now difficult to obtain on this continent and I cite here only those which I have studied. For the primarily Roman finds from Kôm-el-Shugâfa see T. SCHREIBER (E. SIEGLIN, ed.), Die Nekropole von Kôm-esch-Schukâfa, Expedition Ernst Sieglin. Ausgrabungen in Alexandria, Vol. 1 (Leipzig 1908), passim; for the finds from the Mustafa Pasha necropolis see A. ADRIANI, La Nécropole de Moustafa Pacha, AMGRA (1933/35), 135—158. As P. M. FRASER, Ptolemaic Alexandria, 1.8—9 has pointed out, subsidence along this part of the coast has removed forever the possibility of excavating much of the ancient city. For more recent stratigraphic excavations by the Polish Archaeological Mission at Kôm-el-Dikka in the centre of ancient Alexandria see J. LIPINSKA and H. RIAD, Trial Pits at Kom-el-Dikka in Alexandria, ASAE 59 (1966), 99—108. For reports of more recent work at Kôm-el-Dikka including the discovery and restoration of a Roman theatre going back to the first century see I. POMORSKA, Polish Excavations in Egypt and the Sudan in the Season 1968—69, AfrBull 12 (1970), 76; E. DABROWSKA-SMEKTALA, Polish Excavations in Egypt and the Sudan in the Season 1969—1970, AfrBull 14 (1971), 166—167; Z. KISS, Les fouilles polonaises en Égypte et au Sudan en 1971, AfrBull 17 (1972), 199—200; Z. KISS, Les fouilles polonaises en Égypte et au Sudan en 1972, AfrBull 19 (1973,) 131—132.

[508] For example, a bronze statuette of a dwarf carrying a cock found at Strasburg is attributed to Alexandria (cf. a similar figure in P. PERDRIZET, Bronzes grecs d'Egypte, no. 85) by C. PICARD, Le nain bossu au coq de Strasbourg et les Lagynophories Alexandrines, Gallia 16. 1 (1958), 83—86. Bronze lamps found at Volubilis, Banasa and Thamusida in Morocco are thought to be from Alexandria, see C. PICARD, Lampes de bronze alexandrines à Volubilis et Banasa (Maroc), RA 6 ser. 45 (1955), 63—68. For an effort to trace much of the toreutic bronze work found at various locations in the Mediterranean world to Alexandria see C. PICARD, Propos et documents concernant la toreutique Alexandrine, RA (1961), 1. 113—150. But cf. O. D. LORDKIPANIDZE, Italiiskie bronzovye izdeliia naidennye na territorii drevnei Gruzii, SA (1964), 1. 199—220 who discusses the fine bronze vases found at a number of sites in Georgia (i.e. Nitshbissi, Sguderi, Atotsi, Bori, Mtskheta, Achmeta and Kldeeti). All of these finds are from the first to second centuries and are attributed by LORDKIPANIDZE to the workshops of the cities of Southern Italy. Other bronze-producing centres have also been envisaged. See BOUBE-PICCOT's discussion of the connection between numerous bronze finds in Morocco and Syria, C. BOUBE-PICCOT, Phalères de Maurétanie Tingitane, BAMar 5 (1964), 145—157. Evidence of considerable local manufacturing of lesser quality bronze objects has also been found at Volubilis, see IDEM, Note sur l'existence d'ateliers de bronziers à Volubilis, BAMar 5 (1964), 195—198.

[509] Note in particular Strabo XVI.2.25 (from the early Augustan period): ἤκουσα δ' ἐν τῇ 'Αλεξανδρείᾳ παρὰ τῶν ὑαλουργῶν εἶναί τινα καὶ κατ' Αἴγυπτον ὑαλῖτιν γῆν, ἧς χωρὶς οὐχ οἷόν τε τὰς πολυχρόους καὶ πολυτελεῖς κατασκευὰς ἀποτελεσθῆναι. Cicero, pro Rab. Post. 40 mentions shiploads of manufactured items probably of Alexandrian origin which were brought to Puteoli by the vessels of C. Rabirius Postumus: *At permutata aliquando pecunia est; subductae naves Postumi Puteolis sunt; auditae visaeque merces fallaces quidem et fucosae, chartis et linteis et vitro delatis: quibus cum multae naves refertae fuissent, una non potuit parva.* For textiles see Pliny NH VIII. 196: *Plurimis vero liciis texere quae polymita appellant Alexandria instituit.* For the concentration of the *aromata* industries in Alexandria see below n. 992.

[510] For glass production elsewhere in Egypt see the glass finds from the faience factory of the Roman period at Memphis, cf. A. J. ARKELL, Ancient Red Glass at University College, London, JEA 43 (1957), 110. For the attribution of some cameo glass and glass sculptures to Alexandrian workshops see R. W. SMITH, The Significance of Roman Glass, BMMA n. s. 8 (1949), 58—60. But cf. the rarity of glass among the finds of the ERNST VON SIEGLIN expedition at Alexandria; R. PAGENSTECHER (E. VON SIEGLIN, ed.), Die griechisch-ägyptische Sammlung Ernst von Sieglin. Expedition Ernst von Sieglin. Ausgrabungen in Alexandria, Vol. 2 (Leipzig 1913), 145. PAGENSTECHER states that the glass finds of the expedition were not significant and reproduces two perfume bottles. The case for an Egyptian attribution of such painted glass vessels is strengthened by the rich finds of painted footed flutes with Egyptian motifs from the Meroitic necropolis of Sedeinga, see J. LECLANT, Glass from the Meroitic Necropolis of Sedeinga (Sudanese Nubia), JGS 15 (1973), 56—67, figs. 5—15. Fragments of a painted vase possibly with a gladiator scene have also been found in tomb 5 at Begrawiyah-North, see D. DUNHAM, Royal Tombs at Meroe and Barkal, The Royal Cemeteries of Kush 4 (Boston 1957), 126, fig. 83.

[511] So P. HAMELIN, Cahiers de Byrsa 4 (1954), 173—180, 183; IDEM, Libyca 3 (1955), 98—99; F. FREMERSDORF, Germania 27 (1943), 200 201; M. ROSTOVTZEFF, SEHHW, 3. 1648, n. 198. A considerable number of such painted glass vessels have been found at various sites in Syria: from Dura, P. V. C. BAUR, in: P. V. C. BAUR, M. I. ROSTOVTZEFF and A. R. BELLINGER, The Excavations at Dura Europos. Fourth Season (New Haven 1933), 252—254; other examples of painted glass have been found at Um-Hauran, El-Yaqoussah and Palmyra, see S. ABDUL-HAK, Les verres peints de la période romaine, conservés au Musée National de Damas, AAS 15 (1965), 13—24, pls. I—VII.

The evidence for the use and production of glass in both Syria and Phoenicia is considerably more extensive than in Egypt. For the antiquity of glass production in Phoenicia see G. LEHRER, A Phoenician Glass Bowl from Nimrud, JGS 16 (1974), 9—13. See, for example, the extensive glass finds of the Roman period from the Cave of Horror in the Judaean Desert all of which are attributed to Palestine-Syria, D. BARAG, Glass Vessels from the Cave of Horror, IEJ 12.3/4 (1962), 208—214; cf. G. D. WEINBERG, Notes on Glass from Upper Galilee, JGS 15 (1973), 45—51, who attributes the mosaic glass excavated at Kibbutz Hagoshrim to Egypt (see also on the attribution of this technique to Egypt G. D. WEINBERG, An Inlaid Glass Plate in Athens, JGS 4 [1962], 36). For other local Syrian collections of glass see K. MOUHANDES, Collection de verres du musée d'Alep, BJIV 3 (1964), 35—40; B. ZOUHDI, Les verres conservés au départment des antiquités syriennes des époques grecque, romaine et byzantine du Musée National de Damas, BJIV 3 (1964), 41—54; A. MASRI, Collection de verres du musée de Hama, BJIV 3 (1964), 72—74. A major production centre for moulded glass bowls from the Hellenistic period has been excavated at Tell Anafa: see G. D. WEINBERG, Hellenistic Glass from Tel Anafa in Upper Galilee, JGS 12 (1970), 17—27, and S. S. WEINBERG, Tel Anafa: the Hellenistic Town, IEJ 21.2/3 (1971), 99—101; IDEM, Tel Anafa: The Third Season, Muse 5 (1971), 8—16.

Evidence for the existence of a glass industry in the third and fourth centuries of the Roman Empire has also been found in excavations at Jalamet el-Asafna near the port of Haifa, see P. N. PERROT and G. D. WEINBERG, Chronique archéologique: Jalamet el Asafna, RB 72 (1965), 578; J. KAPLAN, B. MAZAR, N. TSORI, G. D. WEINBERG and Z. YEIVIN, RB 74

(1967), 90—91. Excavations have revealed the existence of glassworks at Jelemiye in Israel in the fourth century, A. E. Berkoff, Israel. Notes about Recent Excavations of Glass, BJIV 4 (1965/66), 113. A glass industry is also thought to have existed at Haifa in the late imperial period, see J. Elgavish, Ausgrabungen in Schikmona, dem heutigen Haifa, Raggi 9 (1969), 14. The archaeological and Talmudic literary evidence for glass production in the Roman period at Beit Shearim, Akko, Kfar Yasif and Tiberias is collected in A. Engle, Galilee as a Center of Glassmaking in the Roman Period, RGH 1 (1973), 35—50. Perhaps the most well known of all Phoenician sites is Sidon (cf. Strabo XVI.2.25). Harden long ago assigned a famous group of mould-blown cups, bowls and jugs signed by Ennion to this craftsman's Sidonian workshop of the first century of our era. The frequent discovery of glass made by Ennion in northern Italy led to the suggestion that he and other Syrian glassblowers set up branch plants or even moved altogether to northern Italy. See D. B. Harden, Romano-Syrian Glasses with Mould-Blown Inscriptions, JRS 25 (1935), 164—169; Idem, Two Tomb-Groups of the first century A.D. from Yahmour, Syria, and a Supplement to the List of Romano-Syrian Glasses with Mould-Blown Inscriptions, Syria 24 (1944/45), 82, 86—87 (glass from two Yahmour tombs of the first century); Idem, A Roman Sports Cup, Archaeology 11.1 (1958), 5; Idem, Ancient Glass, II: Roman, AntJ 126 (1969), 49—51; cf. further examples of Ennion's work published by J. Hayward, Roman Mold-Blown Glass at Yale University, JGS 4 (1962), 50 and Y. Israeli, Sidonian Mold-Blown Glass Vessels in the Museum Haaretz, JGS 6 (1964), 34—35. For archaeological evidence of glass production around Sidon see A. Engle, 3,000 Years of Glassmaking on the Phoenician Coast, RGH 1 (1973), 20—21.

Elsewhere in the East glassworks have been found at Tanais on the Don, N. P. Sorokina, Stekliannye sosudy iz Tanaisa, MIA 127 (Moscow 1965), 202—248, and E. M. Alekseeva and T. M. Arsen'eva, Steklodelie Tanaisa, SA (1966), 2.176—188. For the excavation of a glass workshop of the late third to fourth centuries at Chersonese see G. D. Belov, Steklodelatel'naia masterskaia v Khersonese, KSIA 116 (1969), 80—84. For the production of mosaic glass in Hellenistic Armenia see Zh. Khachatrian, Steklodelie v drevnei Armenii (II—I veka do nashei ery), IFZh (1975), 1.251—257.

More cautious scholars have pointed out that neither shape nor technique are sufficient criteria even to determine whether any given vessel is produced in Germany or one of the oriental provinces; see the remarks on the glass from Besan in the Jordan Valley in P. La Baume, Römisches Glas des östlichen Mittelmeerraumes und des Rheinlandes, AK 4 (1974), 367—370. Glassworks leave fewer traces archaeologically than pottery kilns, thus making it difficult to identify the major glass-producing centres of Antiquity; cf. F. Fremersdorf, Die Anfänge der römischen Glashütten Kölns, KJVFG 8 (1965/66), 24, 26, 28, 35—39. Since the intensity of excavation in various regions included in the Roman East has varied greatly, most of the glass workshops which have been traced archaeologically have been found in the Pontic cities of the USSR and in Israel. The relative paucity of excavated glassworks from Egypt may in part be the result of the lack of interest in excavating sites of the Roman period in that country. Only a single Roman glassmaker adds the place of manufacture to her signature: *Sentia Secunda facit Aquileiae* and a second jug inscribed *Sentia Secunda facit Aq(vileiae) vitr(earia)*, M. C. Calvi, I Vetri romani del Museo di Aquileia (Aquileia 1968), 20, 81; cf. D. B. Harden, AntJ 126 (1969), 49 n. 25.

[512] See the epigraphical and papyrological evidence assembled by T. Reil, Beiträge, 37—46: pottery: cf. the excavation of the Ptolemaic and Roman kiln complex at El-Farâ'în which suggests that the local potters never achieved in their imitations the high quality of terra sigillata originals; see D. Charlesworth, Tell El-Fâra'în: The Industrial Site 1968, JEA 55 (1969), 23.

[513] J. Hackin and J. R. Hackin, Recherches, 10 suggest dates for the various glass objects from the first to fourth centuries. So also F. Fremersdorf, Germania 27 (1943), 200; R. E. M. Wheeler, in: Aspects of Archaeology, 347—349, favours first to fourth centuries.

[514] C. Picard, BCH 76 (1952), 94 suggests a date of the late first century B.C. for the Pharos vase. D. B. Harden and J. M. C. Toynbee, The Rothschild Lycurgus Cup, Archaeologia

97 (1959), 191 favour a fourth century date for the same piece. F. Coarelli, ArchClass 15 (1963), 70—71 considers the painted glass as second century. Subsequent finds of *diatreta* confirm that the fourth century was the peak period for the production of these glass vessels (see below n. 523). The literary evidence for the earlier production of these glass vessels is at best ambiguous (see below n. 524). The earliest *diatretum* from a securely dated archaeological context was found in the Athenian agora in 1956 in the ruins of a building destroyed by the Herculian raid of A.D. 267; B. D. Weinberg, *Vasa Diatreta* in Greece, JGS 6 (1964), 47—51. This discovery tends to confirm Harden's suggestion that the technique for the production of *diatreta* was known earlier in the East than in the Rhineland, see D. B. Harden, AntJ 126 (1969), 58.
If one approaches the problem of the date of the *diatreta* from the point of view of a similarity in the technique of grinding cage-cups and other thick-walled glass vessels with ground designs, a late date is again suggested (see on such a comparison W. Haberey, Dickwandige Schliffbecher und Diatrete, KJVFG 5 [1960/61], 36—37); see the evidence assembled by H. G. Rau, Facettschliffbecher und die Chronologie der Spätkaiserzeit, AK 3 (1973), 441—445, and H. Günter, Zur Provenienzfrage spätantiker Gläser, AK 4 (1974), 371—376.

[515] V. Elisseeff, in: Nouvelles Recherches, 151, 155.

[516] See the extensive discussion of early Chinese lacquer production in: O. Maenchen-Helfen, Zur Geschichte der Lackkunst in China, WBKKGA 11 (1937), 32—64, esp. 54—57 on the importance of the inscriptions on lacquers. Cf. more recently the comprehensive study of imperial and private lacquer production in the Han period by Sato Taketoshi, Chugoku kodai no shikki kog yo, Jimbun kenkyu 9 (1958), 1244—1285; cf. RBS (1958), no. 437. See also O. Maenchen-Helfen, Materialien zur Geschichte des chinesischen Lacks, OZ 23 (1937), 215—222; F. Löw-Beer, Zum Dekor der Han Lacke, WBKKGA 11 (1937), 65—72.

[517] J. Hackin and J. R. Hackin, Recherches, p. 10; p. 29, no. 150; p. 57, no. 275; R. Ghirshman, Bégram, Recherches archéologiques et historiques sur les Kouchans, MDAFA 12 (Cairo 1946), 86—88.

[518] R. Ghirshman, Bégram, 86—87.

[519] The latest coins found in Begram II are those of Vāsudeva I, see R. Ghirshman, Bégram, 86, 150; Idem, Die französische archäologische Forschung in Iran und Afghanistan (1940 to 1951), Saeculum 4 (1953), 116; Idem, Le problème de la chronologie des Kouchans, CMH 3. 3/4 (1957), 707.

[520] R. Ghirshman, Bégram, 150; accepted by R. E. M. Wheeler, in: Aspects of Archaeology, 349.

[521] A. Maricq, The Date of Kaniṣka, in: Kaniṣka Papers, 181—182.

[522] For a discussion of Kuṣāṇa chronology see above pp. 631—640. For the date of the glass see above n. 514 and below.

[523] All of the *diatreta* published to 1959 were discussed by J. M. C. Toynbee, Archaeologia 97 (1959), 189—212 who concludes that such vessels were not produced until the fourth century: cf. D. B. Harden, The Rothschild Lycurgus Cup: Addenda and Corrigenda, JGS 5 (1963), 8—10. The number of known finds of these most precious of all glass vessels has increased in the last two decades, but the geographical distribution has changed but little, expanding somewhat eastwards to include Greece and the Balkans. In the excavation of a grave near the remains of a Roman villa at Cologne-Braunsfeld (an area in which two previous *diatreta* had been found in 1844) a new *diatretum* was discovered in 1960. For the site and the glass see O. Doppelfeld, Das Diatretglas aus dem Gräberbezirk des römischen Gutshofs von Köln-Braunsfeld, KJVFG 5 (1960/61), 8,16—19 (sarcophagus 5), 23—27; see also on this piece Idem, Das neue Kölner Diatretglas, Germania

38.3/4 (1960), 403—417; Idem, Das Kölner Diatretglas und die anderen Netzdiatrete, Gymnasium 68.5 (1961), 410—424; J. Röder, Das Diatret von Köln-Braunsfeld. Optische Untersuchungen an Netzfragmenten, KJVFG 7 (1964), 33—38. Doppelfeld also briefly draws attention to a previously ignored discovery of a fragment of a *diatretum* from Epfach-Abodiacum, KJVFG 5 (1960/61), 34. A further fragment of a *diatretum* found in Germany was published by J. Röder, Die Diatretglasscherben 6211 des römisch-germanischen Museums Köln, KJVFG 6 (1962/63), 98—105. Excavations in 1960 at a fourth century imperial villa at Konz/Saar yielded a fragment of a *diatretum* and excavations in 1962 at the imperial baths at Trier produced a further fragment, this one apparently from a bowl; see W. Reusch, Zwei Diatretglas-Fragmente aus Konz und Trier, TZ 32 (1969), 298—299, 305—306, 311—315, pls. C—D. A *diatretum* from Termantia in Spain was republished by T. E. Haevernick, Zu dem Diatret von Termantia, MDAI(M) 12 (1971), 202—204. In 1965 fragments of a *diatretum* were excavated from a late Roman grave at Jambol in southeast Bulgaria; see A. Dimitrova, A *Vas Diatretum* from Thrace, JGS 16 (1974), 14—17. A fragment of a *diatretum* has been found at Split, A. von Saldern, Ancient Glass in Split, JGS 6 (1964), 46. Fragments of two *diatreta* have been excavated at Athens in 1956 and Corinth in 1962 (the latter in a late fourth century context), see G. D. Weinberg, JGS 6 (1964), 47—55 and R. H. Brill, An Observation on the Corinth *Diatretum*, JGS 6 (1964), 56—59. For an imitation *diatretum* excavated from Bavai see H. Cüppers, Ein römisches Pseudo-Diatretglas aus Bavai, TZ 27 (1964), 160—162.
For suggestions regarding the manner of manufacture of these delicate works of art see F. Neuburg, Ancient Glass (Toronto 1962), 81—82. Neuburg (p. 83) also rules out Egypt as a possible source for such vessels (but the knows nothing of the Begram find). Cf. W. Huberey, Dickwandige Schliffbecher und Diatrete, KJVFG 5 (1960/61), 36—37; O. Doppelfeld, KJVFG 5 (1960/61), 24—27; J. Röder, KJVFG 7 (1964), 33—38 and W. Reusch, TZ 32 (1969), 313—316, who discuss the two major theories about the method of production.

[524] The earliest literary evidence for the production of such vessels comes from regulations mentioned by Ulpian, Dig. IX.2.27.29, cf. CTh XIII.4.2 for tax rebates granted *diatretarii* by an edict of Constantine. The word occurs already in a still earlier text, Martial XII.70.9—10: *o quantum diatreta valent et quinque comati! / tunc, cum pauper erat, non sitiebat Aper*, but it is not certain that glass vessels are being described, cf. O. Doppelfeld, KJVFG 5 (1960/61), 27—28, G. F. Grimstad, Ricerche su alcuni *diatreta*, ConIA 1 (1967), 136—139, and O. Lenel and R. Zahn, Diatreta, AA (1928), 563—569. The latter collect all of the Latin, Greek and Hebrew literary evidence for the term *diatreta* and conclude that there is no certainty (particularly with the earliest references) that glass vessels are always implied by this term. See also A. Engle, Rabbi Hiyya the Elder — Halakhist and Travelling Salesman, RGH 4 (1974), 5—6, who in her discussion of the use of *diatreta* in the Midrash argues that any expensive glass vessel with engraved decoration could be thus described and that the term was not limited to cage-cups.

[525] Pliny, NH VI.101: *nullo anno minus HS* $\overline{D}$ *imperii nostri exhauriente India* ...; Pliny NH XII.84: *minimaque computatione miliens centena milia sestertium annis omnibus India et Seres et paeninsula illa imperio nostro adimunt* ...

[526] So K. J. Beloch, Die Handelsbewegung im Altertum, Jahrb. f. Nat. u. Stat. (1899), 630—631 who compares for magnitude trade figures from the late eighteenth and early nineteenth centuries; F. Hirth, China, 227—228; Idem, Ch.St., I.11—12; M. Chvostov', Istoriia, 408—410; W. H. Schoff, Proc. Num. and Ant. Soc. of Philadelphia (1913), 60—61; E. Leider, Alexandreia, 62; G. F. Hudson, Europe and China, 98—101; T. Frank, Rome and Italy of the Empire, ESAR 5 (Baltimore 1939), 283; S. J. de Laet, Portorium, Étude sur l'organisation douanière chez les Romains surtout à l'époque du Haut Empire (Brugge 1949), 304; J. I. Miller, Spice Trade, 222—225; E. H. Warmington, Commerce^2, 274—278. J. Guey, Essai sur la guerre parthique de Trajan (114—117), Bibliothèque d'Istros 2 (Bucarest 1937), 20—23.

[527] Pliny, NH praef. 3.

[528] Cf. M. P. CHARLESWORTH's enlightened comment. "High figures in other ancient sources usually give rise to scepticism; perhaps there is a moralist strain in most of us which inclines us to credit this large sum, which if it were met in another connection, would give us pause", in: Johnson Studies 137, and also 137, n. 16: "These figures are usually accepted as gospel, but I sometimes wonder how Pliny knew them."

[529] The figures are totally rejected by M. I. FINLEY, The Ancient Economy (Berkeley 1973), 132, 206, n. 20.

[530] In dealing with these figures J. I. MILLER is inept, Spice Trade, 223—230. E. g. 223: "[Pliny] had a natural inclination towards figures." 223—224: "Pliny was a member of an Order which was responsible to the Emperor for the collection of frontier dues, . . .Pliny was therefore likely to have access to Treasury figures for purposes of publication. As a senior official he would be interested in public finance"; 227: "As a member of the bureaucracy, he looked at this drain of precious metal from a simple mercantilist standpoint . . ."

[531] IGR III.1015 = OGIS 586 = IGLS VII.4011 (with a new transcription): ['Αραδίων] ἡ βουλὴ [καὶ ὁ δῆμος]/ . . . . . . .ίνιον Σεκοῦν[δ . . . . .]/ [ἔπαρ]χον σπείρης (Θ)ρα[κῶν]/ [πρ]ώτης, ἔπαρχον ΝΘ . . ./. . . ων, ἀντεπίτρο[πον Τιβε]/[ρίο]υ 'Ιουλίου 'Αλ(ε)ξ[άνδρου]/ [ἐπ]ἀ̣ρχου τ̣οῦ 'Ιουδαϊ[κοῦ στρατοῦ]/ [ἀντεπίτ]ροπον Συρ[ίας, ...]/ . . . .ωι λεγεῶνος ε . . . . For the emendation Γάϊον Πλ]ίνιον Σεκοῦν[δον found in OGIS see TH. MOMMSEN, Eine Inschrift des Älteren Plinius, Hermes 19 (1884), 644—648 who also proposes the readings (followed by DITTENBERGER) in lines 4—5: (ε)ῖλης / Βατάου]ων and lines 8—10: ἐπίτ]ροπον Συρ[ίας ἔπαρχον ἐν]/ ['Αιγύπτ]ω̣ λεγεῶνος ε[ἰκοστῆς]/ [δευτέρας]; again in CIL III Suppl. 6809, p. 1241.

[532] The identification and emendation of MOMMSEN were challenged by O. HIRSCHFELD in a brief note in: MDAI(R) 2 (1887), 152 and F. MÜNZER, Die Quelle des Tacitus für die Germanenkriege, BJ 104 (1899), 103—106 (the most detailed discussion of the epigraphic problems involved). Also rejected by H.-G. PFLAUM, Les carrières procuratoriennes équestres sous le Haut-Empire Romain I (Paris 1960), 108—109, no. 45; A. N. SHERWIN-WHITE, The Letters of Pliny (Oxford 1966); R. SYME, Pliny as Procurator, HSCPh 73 (1969), 205. The identification has gained a number of adherents, so A. LEPAPE, Tiberius Iulius Alexander, BSRAA 8. 3 (1934), 339, n. 5; E. G. TURNER, Tiberius Iulius Alexander, JRS 44 (1954), 62. The question was re-opened by M. MALAISE, Pline l'Ancien a-t-il séjourné en Egypte?, Latomus 27 (1968), 852—863, who is uncertain about the inscription(!) but notes that the 'Historia Naturalis' contains so many errors that a visit to Egypt is out of the question. Cf. also E. SANDER, Zur Rangordnung des römischen Heeres: Die Flotten, Historia 6 (1957), 348 and D. KIENAST, Untersuchungen zu den Kriegsflotten der römischen Kaiserzeit, Antiquitas 1 ser. 13 (Bonn 1966), 35 who accepts the attribution of the Aradus inscription to the author of the 'Naturalis Historia' without question.

[533] See F. MÜNZER, BJ 104 (1899), 67—75, 80—81; A. N. SHERWIN-WHITE, The Letters of Pliny, 219—221; R. SYME, HSCPh 73 (1969), 205—208. For Pliny's detailed knowledge of the region see also E. NORDEN, Die germanische Urgeschichte in Tacitus Germania^{3} (Leipzig 1923), 207—218.

[534] So F. MÜNZER, BJ 104 (1899), 107—111; H.-G. PFLAUM, Les Carrières Procuratoriennes, 109—110; A. N. SHERWIN-WHITE, The Letters of Pliny, 220 questions whether all of the procuratorships can be placed under Vespasian; cf. R. SYME, HSCPh 73 (1969), 210—218, who questions the procuratorship in Narbonensis.

[535] F. MÜNZER, BJ 104 (1899), 67—85.

[536] See Strabo III.4.20; A. N. SHERWIN-WHITE, PBSR 15 (1939), 14—15; A. H. M. JONES, Procurators and Prefects in the Early Principate, in: Studies in Roman Government and Law (Oxford 1968), 123; F. MILLAR, Some Evidence on the Meaning of Tacitus Annals XII.60, Historia 13.2 (1964), 182.

[537] Two passages have long caused problems in relation to Pliny's career under Vespasian: Pliny Ep. III.5.9: *ante lucem ibat ad Vespasianum imperatorem (nam ille quoque noctibus utebatur), inde ad delegatum sibi officium,* and Ep. VI.16.4: *erat Miseni classemque imperio praesens regebat* (the *praesens* here suggesting the possibility of Pliny's frequent absence). The issue remains unresolved. Syme suggests he was *praefectus vigilum*; see R. Syme, Tacitus, 1.61, n. 5, cf. A. N. Sherwin-White, Letters of Pliny, 222—223, 371 and H.-G. Pflaum, Carrières, 110. On the importance of the *procurator* of Belgica as paymaster of the Rhine legions see R. Syme, HSCPh 23 (1969), 226—227. Positions in either Belgica or Lugdunensis and Aquitania usually immediately preceded high office in Rome or the Prefecture of Egypt; e. g. Cn. Pompeius Homullus, CIL VI.1626 = ILS 1385 and C. Minicius Italus, CIL V.875 = ILS 1374. See also the summary of the previous administrative experience of the Prefects of Egypt in: P. A. Brunt, The Administrators of Roman Egypt, JRS 65 (1975), 127—128, 142—147 and the earlier conclusions of A. N. Sherwin-White, PBSR 15 (1939), 16—19, who anticipated in many respects the results of Brunt (but is not cited by him).

[538] Cf. Syme, who stresses that the command of the fleet is relatively insignificant after such a promising series of procuratorships; R. Syme, HSCPh 73 (1969), 226—227. By the late Julio-Claudian and early Flavian periods the increased civil duties of the *classis Misenensis* had altered the original purely military character of this post. See A. N. Sherwin-White, PBSR 15 (1939), 20—21; cf. Tac., Hist. II.100. Lucilius Bassus in 69 was appointed to command both fleets simultaneously after being prefect of an *ala.* See D. Kienast, Untersuchungen zu den Kriegsflotten der römischen Kaiserzeit, 72—75.

[539] Such an argument could only rest on his role as *amicus principis*; cf. Pliny, Ep. III.5.7,9. This hardly made him a leading advisor of the emperor, not a man to compete with consulars, senators, and provincial governors; see R. Syme, Tacitus 2.593—596; cf. also F. Millar, Emperors at Work, JRS 57 (1967), 10, 18. The general classification *amici principis* was a large one and the emperor's *consilium* usually contained only the uppermost level of this group; see in general J. Crook, Consilium Principis. Imperial Councils and Counsellors from Augustus to Diocletian (Cambridge 1955), 22—29. Although the inclusion of *equites* among the *amici* is not unusual after Vespasian, the presence of *equites* at a *consilium* is more difficult to document. Evidence for their presence in the reign of Antoninus Pius comes from a recently published *constitutio* of that emperor which includes in the *consilium* the future emperors Lucius Verus and Marcus Aurelius as well as ἐξ ἑκατ[έ]ρ̣ας τάξεω̣ς; see the text and commentary in J. D. Thomas, An Imperial *Constitutio* on Papyrus, BICS 19 (1972), 104, 106, 108. (For meaning of τάξις as *ordo* see H. J. Mason, Greek Terms for Roman Institutions, ASP 13 [Toronto 1974], 91—92 s. v. τάξις n. 4). We possess a small but growing number of *consilia* for which a list of members is known: the 'Tabula Banasitana' of the reign of Marcus Aurelius and Commodus lists twelve members of a *consilium* on July 6, 177 which included both senators and the holders of high equestrian offices in Rome; see the text published by W. Seston and M. Euzennat, Un dossier de la chancellerie romaine: la Tabula Banasitana. Étude de diplomatique, CRAI (1971), 472, 484—488; cf. briefly T. D. Barnes, Who were the nobility of the Roman Empire?, Phoenix 28.4 (1974), 448. (Q. Cervidius Scaevola, who appears in the tenth position on the list, was occupant of the *praefectura vigilum* in 175 and could conceivably be cited as a parallel to Pliny, if Syme's suggestion [Tacitus 1.61] that the latter eventually held this post were ever confirmed). In Juvenal Sat. IV.75—118 we have a picture of the membership of Domitian's *consilium*; again the rank of the participants is well beyond any which Pliny is known to have attained; for the identification of the men listed by Juvenal see J. Crook, op. cit., 50—52; G. Highet, Juvenal the Satirist. A Study (Oxford 1954), 259—261; R. Syme, Tacitus 1.67 n. 2. P. Oxy XXV.2435 provides some names from the *consilium* of Augustus (F. Heichelheim, Zu P. Oxy. XXV. 2435, in: Festschrift F. Oertel, 19 suggests Σ⟨ε⟩ι̣ά̣νου in line 40, but this is rejected by A. K. Bowman, Papyri and Roman Imperial History, 1960—75, JRS 66 [1976], 154, n. 7). Vespasian's *consilium* most likely included the important senators who are attested to have been that emperor's closest associates, Licinius Mucianus, Pompeius Silvanus, etc.,

see the discussion in W. Eck, M. Pompeius Silvanus, Consul designatus tertium — ein Vertrauter Vespasians und Domitians, ZPE 9.3 (1972), 269—272. Pliny would have been of little importance in such company and Miller's picture of him as a *close* adviser and confidant of Vespasian must be rejected.

[540] Cf. G. W. Bowersock, Syria under Vespasian, JRS 63 (1973), 133—140, who connects measures taken to strengthen the Euphrates frontier with the evidence of building activity in Bostra, Gerasa, and Palmyra to form a picture of a co-ordinated Syrian policy under Vespasian. The proposed mastermind behind this policy is M. Ulpius Traianus, so R. Syme, Tacitus 1.31; G. W. Bowersock, op. cit., 140. One may question whether the pattern Bowersock suggests, of increased municipal building activity in the Flavian period, exists. In northern Syria such activity is already in evidence at a much earlier date. The Swiss, Polish, and Syrian excavations at Palmyra have turned up a great deal of new material and it may now be suggested that in the major commercial cities of northern Syria the period of intense building activity begins in the early Julio-Claudian period (or earlier) and is sustained, in most cases, through the second century. Cf. the older view in D. Schlumberger, Le développement urbain de Palmyre, Berytus 2 (1935), 149—162, which places the beginning of the major phase of construction at Palmyra into the second half of the first century. At Palmyra a period of slow civic development in the Seleucid period (for remains from the second and first centuries B.C. see R. Fellmann, Le Sanctuaire de Baalshamin à Palmyre V. Die Grabanlage [Rome 1970], 131—138, and for remains of a third century B.C. temple of Bel see Comte du Mesnil du Buisson, Première campagne de fouilles à Palmyre, CRAI [1966], 185; see other evidence for this early period below p. 837, n. 775) culminates in an early first century surge of activity. The erection of the great columned courtyard of the temple of Baalshamin was completed by A.D. 67 and the various other phases of construction are attested in inscriptions from A.D. 23—62/63. See C. Dunant, Le sanctuaire de Baalshamin à Palmyre, III: Les inscriptions (Rome 1971), no. 10 (A.D. 23); no. 21 (A.D. 67?); no. 23 (A.D. 62/63); no. 1A; 1B (= Inv. I.5, A.D. 67); P. Collart and J. Vicari, ibid., I: Topographie et architecture (Rome 1969), 43—47; R. Fellmann, op. cit., 116—117. The main religious edifice of the city (cf. H. Seyrig, Bel de Palmyre, Syria 48 [1971], 89—100), the great sanctuary of Bel, was under construction by A.D. 17 (Inv. IX.6a and b = CIS II.3.3924, 3925; cf. on the date of 6b E. Will, in: M. Gawlikowski, Palmyre VI, 68) and the *cella* was inaugurated in A.D. 32 (cf. J. Cantineau, Tadmorea, Syria 14 [1933], 170—174, no. 1 = Inv. IX.1); also M. Gawlikowski, Palmyre VI (Warsaw 1973), 21. For the surrounding wall put up at the same time see J. Starcky, Inscriptions archaiques de Palmyre, in: Studi orientalistici in onore di G. Levi della Vida 2 (Rome 1956), 513—515. A bilingual Greek and Palmyrene inscription (Inv. II.2 = CIS II.3.3966; cf. plate Inv. VI., p. 6, republished with commentary in J. T. Milik, Dédicaces faites par des dieux [Palmyre, Hatre, Tyr] et des thiases sémitiques à l'époque romaine [Paris 1972], 82—85, and M. Gawlikowski, Palmyre VI, 91—92) attests the construction of a sanctuary for the Arab god Allat by A.D. 64; see M. Gawlikowski, op. cit., 101—102. It has also been suggested that the earliest fortification wall at Palmyra was built in A.D. 20 in connection with the arrival of the *legio X Fretensis* (see also below p. 837, n. 775); so M. D. van Berchem, Le premier rempart de Palmyre, CRAI (1970), 235—236; cf. M. Gawlikowski, Palmyre VI, 18—19, who notes that such precision in dating is impossible, but that the fortifications had already fallen out of use by some time in the first half of the first century. The published inscriptions show that this period of intense construction continued through the remaining years of the first century, the second century, and down to the final destruction of the city. See also A. Bounni and H. Saliby, Six nouveaux emplacements fouillés à Palmyre (1963—64), AAS 15 (1965), 121—138, who place the foundation of the sanctuary of Nabu in the second half of the first century.

The foundation and first building phase at Hatra was dated to the early Augustan era; see E. Herzfeld, Hatra, ZDMG 68 (1914), 668. The published Aramaic inscriptions from the site tend to confirm this. The earliest text now comes from the year 309, i. e. 2 B.C., if the Seleucid era is being used; see R. Degen, Neue aramäische Inschriften aus Hatra

(Nr. 214—230), Die Welt des Orients 5.2 (1970), 223. No. 82, which had previously been the oldest text comes from the year 388. But cf. J. Teixidor, Notes Hatréennes, 4, Syria 43 (1966), 93—97, who favours a later date for the development of the epigraphic script in use at Hatra and argues that all inscriptions are dated in the Parthian era. This is rejected by J. Naveh, The North-Mesopotamian Aramaic Script-type in the Late Parthian Period, IOS 2 (1972), 302—303, who reads the date in Hatra no. 82 as 488. So also J. T. Milik, Dédicaces, 360—361 with a date in the Seleucid era.
The history of construction at Dura in the Parthian period is better attested. The great circuit fortification walls had been built by the early first century of our era; see C. Hopkins, in: The Excavations at Dura-Europos, Second Season, 1928—1929, 27 (henceforth cited as 'Dura Excavations'); Idem, in: Dura Excavations, Fifth Season, 1931—1932, 5—6, where he notes that the wall was definitely completed in the first half of the first century. Construction on the temple of Artemis was in progress since 33—32 B.C.; see H. T. Rowell, in: Dura Excavations, Third Season, 1929—1930, 29; C. Hopkins, in: Dura Excavations, Sixth Season, 1932—1933, 397—398. The *naos* of the temple of Atargatis was constructed in A.D. 31 and the main court was paved in A.D. 54; see H. T. Rowell, in: Dura Excavations, Third Season, 1929—1930, 35—36. The temple of Aphlad was built before A.D. 54; see C. Hopkins, in: Dura Excavations, Fifth Season, 1931—1932, 104, 113—116; the temple of Azzanathkona was built by A.D. 12—13; see C. Hopkins, in: Dura Excavations, Fifth Season, 1931—1932, 133—134. All of this building activity on both sides of the Roman-Parthian frontier in the first half of the first century must be connected with the flourishing economy of the period. The building activity of the Flavian period must thus be connected with a continuation of this prosperity and not with imperial policy.

[541] Cf. J. I. Miller, Spice Trade, 228: "Pliny's observations probably reflect the anxiety in Vespasian's mind." Also T. Frank, Rome and Italy of the Empire (= ESAR V), 283, n. 39: "But Vespasian was hardly the man to permit the drain to continue."

[542] The passage must be read in context to be properly understood: *C. Sulpicius D. Ha⟨te⟩rius consules sequuntur, inturbidus externis rebus annus, domi suspecta severitate adversum luxum, qui immensum proruperat ad cuncta, quis pecunia prodigitur. sed alia sumptuum, quamvis graviora, dissimulatis plerumque pretiis occultabantur: ventris et ganeae paratus adsiduis sermonibus vulgati fecerant curam, ne princeps antiquae parsimoniae durius adverteret. nam incipiente C. Bibulo ceteri quoque aediles disseruerant sperni sumptuariam legem vetitaque utensilium pretia augeri in dies, nec mediocribus remedi⟨s s⟩isti posse, et consulti patres integrum id negotium ad principem distulerant. sed Tiberius saepe apud se pensitato, an coerceri tam profusae cupidines possent, num coercitio plus damni in rem publicam ferret, quam indecorum adtrectare quod non obtineret vel retentum ignominiam et infamiam virorum inlustrium posceret, postremo litteras ad senatum composuit, quarum sententia in hunc modum fuit.... quid enim primum prohibere et priscum ad morem recidere adgrediar? villarumne infinita spatia? familiarum numerum et nationes? argenti et auri pondus? aeris tabularumque miracula? promiscas viris et feminis vestes atque illa feminarum propria, quis lapidum causa pecuniae nostrae ad externas aut hostilis gentis transferuntur?* (Tac., Ann. III.52—53). Cf. in a similar context a resolution of the senate in A.D. 16: *decretumque ne vasa auro solida ministrandis cibis fierent, ne vestis Serica viros foedaret* (ibid., II.33). Cited as evidence of imperial concern by A. S. Nodelman, Berytus 13.2 (1960), 109; F. Millar, The Roman Empire and its Neighbours (New York 1966), 91; R. Göbl, Die Rekonstruktion antiker Prägesysteme und ihre Bedeutung für die historische Forschung, ANRW II 1 (Berlin/New York 1974), 917. Cf. N. P. Miller, Tiberius Speaks: An Examination of the Utterances Ascribed to him in the Annals of Tacitus, AJPh 89.1 (1968), 12—19 who suggests that Tiberius' speeches in the Senate cited in Tacitus may be only slightly altered from the emperor's original words found in the *acta senatus*. The theme has become a topos by the time of Dio Chrysostomus' moralizing discourse Περὶ πλούτου, Or. 79.5—6: ἆρα ἐνθυμεῖσθε ὅτι πάντες οὗτοι, λέγω δὲ τοὺς Κελτοὺς καὶ Ἰνδοὺς καὶ Ἴβηρας καὶ Ἄραβας καὶ Βαβυλωνίους, φόρους παρ' ἡμῶν λαμβάνουσιν, οὐ τῆς χώρας

οὐδὲ τῶν βοσκημάτων, ἀλλὰ τῆς ἀνοίας τῆς ἡμετέρας· οὐ γάρ, ἂν μὲν τοῖς ὅπλοις κρατήσαντές τινες ἀναγκάσωσιν αὑτοῖς ἀργύριον ὑποτελεῖν τοὺς ἡττημένους, τοῦτο ὀνομάζεται φόρος, καὶ ἔστιν ἀνθρώπων οὐ σφόδρα εὐτυχῶν οὐδὲ ἀνδρείων δασμὸν ἑτέροις παρέχειν· ἐὰν δέ τινες, μήτε ἐπιστρατευσαμένου μηδενὸς μήτε ἀναγκάσαντος, δι' εὐήθειαν δὲ καὶ τρυφήν, ὃ περὶ πλείστου ποιοῦνται ἁπάντων, ἀργύριον πέμπωσιν ἑκόντες, διὰ μακρᾶς μὲν ὁδοῦ, πολλῆς δὲ θαλάττης τοῖς μηδὲ ἐπιβῆναι ῥᾳδίως δυναμένοις τῆς ἡμετέρας γῆς, οὐ τῷ παντὶ κάκιόν τε καὶ αἴσχιον τὸ γιγνόμενον; πλὴν ὅτι λίθους μικροὺς καὶ ἀσθενεῖς καὶ νὴ Δία θηρίων ὀστᾶ διδόντες λαμβάνουσιν ἀργύριον καὶ χρυσίον, ἀντὶ χρηστῶν ἄχρηστα ἀντικαταλλαττόμενοι.

[543] M. Rostovtzeff, SEHHW 3. 1648, n. 203 argued (to my mind incorrectly) that the high tariff on the Euphrates frontier was a protective measure designed to drive commerce to the Red Sea ports. Cf. also the theory of S. J. de Laet, Portorium, 309—311, that the unusually high 25% tariff on the Eastern frontiers was sumptuary in intent and was designed to decrease the *«hémorragie monétaire»*. So also F. Millar, The Roman Empire, 91 and R. Étienne, Rome eut-elle une politique douanière?, Annales (ESC) 7.3 (1952), 372—373. But this seems unlikely, since by Hellenistic standards 25% was not excessively high; see below p. 951, n. 1199 for Ptolemaic tariffs.

[544] See R. Syme, HSCPh 73 (1969), 203—204. On the debt of Pliny to Mucianus, see F. Münzer, Beiträge, 392—397.

[545] Governor of Lycia-Pamphylia shortly after A.D. 57: AE (1915) 48 (A. Halein); IGR III.486 = OGIS 558 = ILS 8816 (Oenoanda); cf. Pliny, NH XII.9; XII.88. For this governorship see R. Syme, Pamphylia from Augustus to Vespasian, Klio 30 (1937), 227—228; D. Magie, RRAM 2, 1386. In general see R. Syme, Tacitus 1.166—167; 2.593—594.

[546] For fragments of Mucianus see H. Peter, HRR II.101—107; cf. F. Münzer, Beiträge, 392—397. Mucianus' interests and the general nature of his work are illustrated by the fragments; e. g. HRR II,102 F. 10 = Pliny, NH VII.36: *Ex feminis mutari in mares non est fabulosum. — Licinius Mucianus prodidit visum a se Argis Arescontem, cui nomen Arescusae fuisse, nupsisse etiam, mox barbam et virilitatem provenisse uxoremque duxisse; eiusdem sortis et Zmyrnae puerum a se visum.* Cf. also F. 8 = Pliny, NH V.128 and F. 11 = NH VII. 159.

[547] On Pliny's method of research see the detailed analysis in F. Münzer, Beiträge, 8—54.

[548] See in general U. Wilcken, Griechische Ostraka aus Ägypten und Nubien (Leipzig/Berlin 1899) (henceforth cited as 'WO'), I, passim; A. C. Johnson, Roman Egypt, 590—609; S. L. Wallace, Taxation in Egypt from Augustus to Diocletian (Princeton 1938), 255—276; 460—470; N. Y. Clauson, A Custom's House Registry from Roman Egypt (P. Wisconsin 16), Aegyptus 9 (1928), 240—280; S. J. de Laet, Portorium, 297—330. Nor can one assume that accounts, when kept, were particularly accurate; see H. C. Youtie and D. Pearl, Note on P. Iand. VII.141, AJPh 57 (1936), 465—469; L. C. West and A. C. Johnson, Currency in Roman and Byzantine Egypt (Princeton 1944), 53—58; cf. V. B. Schuman, The Basis of Accounting Practice in the Karanis Tax Rolls, Aegyptus 32 (1952), 241—252, who has a much higher opinion of the accuracy of Egyptian accounting practices. For the problems raised in making sense of the figures in the Karanis tax-rolls see the explanations offered recently by H. C. Youtie, A Problem in Graeco-Roman Bookkeeping, ZPE 15.2 (1974), 117—121 and V. B. Schuman, The Income of the Office of the ΠΡΑΚΤΟΡΕΣ ΑΡΓΥΡΙΚΩΝ of Karanis A.D. 172—173, BASP 12.1 (1975), 23—58.

[549] S. J. de Laet, Portorium, 310—311, argues that a lower tax was placed on exports on the Eastern frontier than the 25% placed on imports in order to encourage exports to offset the gold drain. There exists, however, no evidence (see above) that the Roman government took any steps to solve the problem.

For toll receipts see e. g. WO II.43,150 (both from Syene and both list articles exported); 801, 806 (both from Hermonthis, and both state that the toll is charged on exports), 1569 (from Thebes), for a tax described as τέλ(ος) ἰσαγω(γῆς); O. Bodl. II.1082—1085 (toll receipts in which it is not noted whether goods are imported or exported), 1086 (receipt for τέλος ἐξαγό[ντων]), 1087—1088 (both from Hermonthis, the receipts note the taxed articles as exports), 1089—1093 (in these receipts it is not noted whether the goods are imported or exported); O. Stras. 250a,b,c,d,e,f,g,h,i (receipts for λιμὴν Μέμφεως, see below p. 1018, n. 1518, and ἐρημοφυλακία, see below p. 1018, n. 1516). In each case the designation εἰ(σάγων) or ἐξ(άγων) is present. Two further receipts from the Fayum are published in E. M. HUSSELMAN, Two Customs House Receipts from Egypt, TAPhA 82 (1951), 164—167. The first of these is an unusual text from several points of view: τελωνῖται διὰ πύλ(ης)/ Σοκνοπαίου ρ καὶ ν/ Σώτας ἐξ(άγων) πυρὸν εἰς/ Αὔασιν κάμηλον/ ἕνα, πῶλον ἕνα. The wheat involved appears to be bound for the Small Oasis or the Oasis of Ammon and this is a rare instance in which the destination is actually stated on a receipt. Furthermore the designation ἐξ(άγων) is used in an unusual sense. On other receipts from the customs station at Socnopaiou Nesos ἐξάγων usually refers to goods bound from the Fayum to the Nile at Memphis, e. g. O. Stras. 250b,c,d (the latter also for ρ' καὶ ν'). Tax receipts and customs seals for ρ' καὶ ν' and possibly λιμὴν Μέμφεως were published by A. E. BOAK, Soknopaiou Nesos. The University of Michigan Excavations at Dime in 1913—32 (Ann Arbor 1935), 24—33. In all ten instances where a sufficient amount of the text of the receipts remains commodities are described as εἰσάγων or ἐξάγων (nos. 1, 2, 3, 5, 7, 8, 10, 11, 12, 13). A single receipt for λιμὴν Μέμφεως collected διὰ πύλ(ης) Φιλαδελ(φείας) and describing goods as ἐξ(άγων) was published by S. EITREM, Two Greek Papyri, in: Studies Presented to F. Griffith (London 1932), 215—217. A list of all of the receipts published up to that date was collected by A. E. SAMUEL and published together with a further receipt in A. E. SAMUEL, Six Papyri from Hamilton College, JJP 13 (1961), 43—48. The list of published receipts is supplemented in P. J. SIJPESTEIJN, Zwei Torzollquittungen, ZPE 6.1 (1970), 78—84 who also publishes three further such documents from the Amsterdam collection here and in IDEM, Eine weitere Torzollquittung aus der Amsterdamer Papyrussammlung, ZPE 7.1 (1971), 45—46. Twelve receipts for ἐρημοφυλακία, ρ' καὶ ν' and ἑκατοστή from the Berlin Museum were published in Z. BORKOWSKI, Toll-Receipts for ἑκατοστή, ρ' καὶ ν' and ἐρημοφυλακία from Berlin, JJP 16/17 (1971), 131—139. In all instances εἰσάγων and ἐξάγων is present. Three further receipts from Vienna have recently been published by P. J. SIJPESTEIJN, Receipts for Various Taxes, Penthemeros Certificates, and Customs House Receipts, in: A. E. HANSON (ed.), Collectanea Papyrologica. Texts Published in Honor of H. C. YOUTIE, 1 (Bonn 1976), 301—303, nos. 47—49. Thus on receipts the description of goods as imports or exports appears to be regular procedure but the final destination is almost never indicated.

For examples of such accounts see P. Amh. II.77.34—83 (A.D. 139), a petition to the *epistrategus* from Pabous, a guard at the custom-house of Socnopaiou Nesos, accusing two officials of defrauding the government. One of the two officials, Harpagathes, kept a correct register of the business done and a copy of this had come into the hands of Pabous, who appended it to the petition. In this document details about import and export are usually given (ii.42—45): ιγ̄ .[. . . . .] ἐ̣ξ(άγων) [ἐπὶ καμ]η̣λ( ) [. . ./ Παπ[ον]τ̣ῶ[ς ἐ]ξ(άγων) ἐ̣[π(ὶ) κα]μη[λ( )/ Πασοκ[ράτ]η(ς) [ἐ . . ά]γω(ν) οἴνο(υ) κεράμια ῑ ./ Επ .[. .] .ις ἐξ(άγων) ἐπὶ κ[αμ]ήλ(οις) β̄ καὶ ὄνῳ ᾱ . . In P. Lond. III.929 (pp. 40—43) (second or third century) the information, whether certain goods are imported or exported, is given and a different recording procedure appears to be used for imports and exports. In P. Lond. III.1169 (pp. 43—47) (second century) the pertinent detail is only sporadically recorded; e. g. (ll. 6—9, 27—30: [δ] Ὅμηρος ἐξάγ(ων) ἐ(πὶ) ὄν(ῳ) (ἑνὶ) ἐ(λαίου) μετ(ρητὰς) (δύο) ∫ η = / Παλ̣ιμις ο$^{\mu}$ ε' κα$^{\mu}$ α ε̄ με$^{\tau}$ δ ∫ ις f / ∫ ις f / Πανουφις ο$^{\mu}$ ε' [κ]α$^{\mu}$ β ε̄ με$^{\tau}$ η ∫ λγ = / . . . . /[κ̄ς̄ . . .]ας ισα$^{\Upsilon}$ λεπτου αλος κα$^{\mu}$ η ∫ λβ/ Λε[. . .]ων ο$^{\mu}$ λεπτου αλος κα$^{\mu}$ ς ∫ κδ /Ωρ[ιω]ν ο$^{\mu}$ ισα$^{\Upsilon}$ καθως α̣π̣εσχε παραγ' /επι της κ̄ε̄ αλος κα$^{\mu}$ β ∫ [η]. Most important is the fact that the monthly summaries and totals (minus the wages of the ἀραβοτοξότης) sent to an unnamed local headquarters do not break down the sums collected into duties on imports or exports (32—35): του μηνος ∫ τξα$^{=}$ του$^{\tau}$ οψονιου Θεογι$^{\tau}$/ 'Αραβοτοξο$^{\tau}$ υπερ θωθ Φαωφι Αθυρς μη/ λοι' εις αρι$^{\theta}$ ∫ τμγ= αι κ, διεπεμφθησαν δια Θ[εο]γι$^{\tau}$ Αραβοτοξο$^{\tau}$. The account in P. Lond. III.964 (pp. 211—212) (late second or third century) covers only three days. SB IV.7365 = P. Wisc. 16 (A.D. 104) contains 96 entries for the month of Thoth. The qualifying description ἐξάγων or εἰσάγων is noted in only 4 cases: i. 1, ii. 32, iv. 11, 17. In BGU III.812 and Stud. Pal. XXII.63, which appear to be fragments of such accounts, most commodities are described as exports. But cf. for the possible significance of BGU III.812 U. and D. HAGEDORN, Abrechnung von Steuereinnehmern, in: A. E. HANSON (ed.), Collectanea Papyrologica, 1.277—278 who compare the text with an account of the ἐπιτηρηταὶ πορθμείου ἁλιευτικῶν πλοίων εἰσαγόντων ταριχηρὰν ἰχθύαν which they publish. Most of these accounts do not mention the type of tax involved, but almost certainly all of the documents (both accounts and receipts) relate to various internal tolls and duties. The practice illustrated here, however, most probably parallels that in use at external frontiers as well. For the attribution of SB IV.7365, P. Lond. III.1169 and BGU III.812 to the λιμὴν Μέμφεως see S. J. DE LAET, Portorium, 325. This was confirmed in the case of SB IV.7365 by the publication of P. Mert. I.15, a portion of a customs account which forms the missing beginning of the former document: Chaeras formally submits the account to Apollonius, *strategus* of the Arsinoite nome, and describes himself as ὑπὸ σοῦ ἐπιτηρητοῦ πύλης Βακχιάδος ὑπο̣/πιπτούσης τῷ τῆς Μέμφεως λιμένι. It has been argued that the omission of ἐξάγων and εἰσάγων in some accounts may be due to the fact that this would be clear from the nature of the products, such as, for example, oil from the Fayum; see N. Y. CLAUSON, Aegyptus 9 (1928), 259—260. There is no indication in SB IV.7365 of the geographic origin of any of the items listed. See speculative remarks of N. Y. CLAUSON, ibid., 262—263. In general on the practice of issuing tax receipts in Egypt see V. B. SCHUMAN, Issuance of Tax Receipts in Roman Egypt, CE 38 (1963), 306—314.

[550] Strabo XVII.1.13 mentions India and Ethiopia: ἐξ ὧν ὁ πολυτιμότατος κομίζεται φόρτος εἰς τὴν Αἴγυπτον. κἀντεῦθεν πάλιν εἰς τοὺς ἄλλους ἐκπέμπεται τόπους· ὥστε τὰ τέλη διπλάσια συνάγεται, τὰ μὲν εἰσαγωγικά, τὰ δὲ ἐξαγωγικά· τῶν δὲ βαρυτίμων βαρέα καὶ τὰ τέλη. Strabo may be describing duties assessed *ad valorem* according to a sliding scale such as that found in the Ptolemaic period at Pelusium (see below p. 951, n. 1199). For discussion of this passage see S. L. WALLACE, Taxation in Egypt, 256; A. ANDREADES, Des droits de douane prélevés par les Lagides sur le commerce extérieur, in: Mélanges Glotz I.9, 14—15; A. C. JOHNSON, Roman Egypt, 590, but cf. S. J. DE LAET, Portorium, 305. P. Oxy. I.36 (first two columns only) = Chrest. Wilck. 273 contains a list of customs regulations from the imperial period. See text and commentary in U. WILCKEN, Ein ΝΟΜΟΣ ΤΕΛΩΝΙΚΟΣ aus der Kaiserzeit, APF 3. 2 (1903/06), 185—200. The papyrus refers to a transit toll within Egypt rather than the *vectigal Maris Rubri* (as suggested by M. ROSTOVTZEFF, APF 4 [1907/08], 310—313; E. KORNEMANN, Janus 1 [1921], 67; O. W. REINMUTH, The Prefect of Egypt, 64; A. ANDREADES, Mélanges Glotz I.34). This is clear from ii.6—15 where goods which were unloaded had again to be loaded on the ship. ROSTOVTZEFF's argument that the list contains only goods of eastern and southern origin does not explain the heading ὅπλα in coll. iii and the mention of κύπρος, an Egyptian product, in col. i. Cf. A. C. JOHNSON, Roman Egypt, 606—607, who suggests a tax station on the Nile. WALLACE has attributed the regulations to the λιμὴν Μέμφεως, S. L. WALLACE, Taxation, 266—267; followed by S. J. DE LAET, Portorium, 322—323.

[551] Our most detailed evidence comes from the so-called νόμος τελωνικός, Chrest. Wilck. 273. Some of the tolls charged for the spices mentioned have survived in this text (i. 7—11):

7—8 [μ]ύρου ἐκ Μειναίας / τοῦ (ταλάντου) α (δραχμὰς) κβ (διώβολον) (ἡμιωβέλιον)
9—10 μύρου ἐκ Τρωγωδυτι/κης (δραχμὰς) ξζ (ὀβολόν)
11 [κ]ασίας τοῦ (ταλάντου) α (δραχμὰς) κβ (διώβολον) (ἡμιωβέλιον)

Similar regulations may also be in part the topic of a very fragmentary inscription from Ombi. See MILNE, Cairo Cat. Gr. Inscrs., no. 9302 = IGR I. 1285 = OGIS 664 = SB I.676.

See E. Costa, Storia delle fonti del diritto Romano (Rome 1909), 181; cf. U. Wilcken, Zu den Edikten, ZSS 42 (1921), 137.

[552] Literary sources: Philostratus, VA I.20; (Quintilian), Declamationes, 341, 359; papyri: see above; inscriptions: IGR I.1183 = OGIS 674, Coptos tariff (see below p. 900, n. 990), CIS II.3913 = IGR III.1056, Palmyra tariff (see below p. 781, n. 581), CIL VIII.4508, Zarai tariff (see below p. 881, n. 937); the tariff inscription from Caunus, G. E. Bean, Notes and Inscriptions from Caunus, JHS 74 (1954), 97—105 = SEG XIV.639 cf. H. W. Pleket, Note on a Customs-Law from Caunus, Mnemosyne 4 ser. 11 (1958), 128—135; the small fragment of a tariff inscription from Lambaesis R. Cagnat, A New Roman Customs List, JRS 4 (1914), 143—146; finally, a new tariff inscription from Jerusalem, I. L. Merker, A Greek Tariff Inscription in Jerusalem, IEJ 25.4 (1975), 238—244. Legal sources: the most important list of goods is found in a rescript of Marcus Aurelius and Commodus, Dig. XXXIX.4.16.6—8. The fullest discussion of the text is H. E. Dirksen, Über ein — in Justinians Pandekten enthaltenes — Verzeichnis ausländischer Waren, von denen eine Eingangssteuer an den Zollstätten des römischen Reiches erhoben wurde, APAW (1843), 59—108. The identification of the port in question as Alexandria is widely accepted: L. C. West, Phases of Commercial Life in Roman Egypt, JRS 7 (1917), 54—55; E. Leider, Alexandreia, 56; J. I. Miller, Spice Trade, 279; cf. E. H. Warmington, Commerce^2, 104, who asserts positively that only imports subject to the *vectigal Maris Rubri* are dealt with in the rescript. Such assertions find no basis in the text and none of the above authors appears willing to explain why articles such as *pelles Babylonicae, purpura,* and *marocorum lana* should be covered by the *vectigal Maris Rubri.*

[553] Cf. J. I. Miller, Spice Trade, 227: "The revenue collections [from customs duties] were transmitted to Rome, together with relevant particulars of their composition. These included the total value in millions of sesterces of all precious metal, in coin, medallions, ingots (if any), and plate, which had left the Empire as exports together with that of all that had entered it in return." Miller seems not to have been aware that we possess the documentary evidence to put his theories to the test.

[554] Among such groups were included athletes, veterans, and the artists of Dionysus; see BGU IV.1073, an official notice from the *boule* of Oxyrhynchus to the βιβλιοφύλακες ἐνκτήσεων describing a certain Aurelius Apollodidymus τῆς ἱερᾶς συνόδου as ἐκ τῶν νόμων ἀτέλιαν; cf. P. Viereck, Aktenstücke zum griechisch-römischen Vereinswesen, Klio 8 (1908), 423—424. For veterans see Chrest. Wilck. 463. ii. 13—14, which mentions an edict of Domitian which declared *veterani milites omnibus vectigalib[us] portitoribus publicis liberati immunes esse deben[t].*

[555] Philostratus, V.A. I.20; (Quintilian), Declamationes, 341, 359; Chrest. Wilck. 273. ii. 10—11; CIL VIII.4508.

[556] In general on the continued survival of tax-farming in Egypt and Syria in the early imperial period see S. J. de Laet, Portorium, 297. In Egypt most indirect taxes continued to be farmed, see WO I.575—587.

For such searches see Plutarch, De Curiositate 7 (518 E): καὶ γὰρ τοὺς τελώνας βαρυνόμεθα καὶ δυσχεραίνομεν, οὐχ ὅταν τὰ ἐμφανῆ τῶν εἰσαγομένων ἐκλέγωσιν, ἀλλ' ὅταν τὰ κεκρυμμένα ζητοῦντες ἐν ἀλλοτρίοις σκεύεσι καὶ φορτίοις ἀναστρέφωνται· καίτοι τοῦτο ποιεῖν ὁ νόμος δίδωσιν αὐτοῖς, καὶ βλάπτονται μὴ ποιοῦντες. Note also (Quintilian), Declamationes, 359: *praeter instrumenta itineris omnes res quadragesimam publicano debeant. publicano scrutari liceat. quod quis professus non fuerit, perdat. matronam ne liceat attingere.* On the reliability of such declamations on points of law see S. F. Bonner, Roman Declamation in the Late Republic and Early Empire (Liverpool 1969), 71—132 (on the Elder Seneca, concluding that in most cases the laws mentioned are not fictitious).

The usual term for a search by a customs collector in Egypt was ζήτησις, see P. Rev. 55.17, 23; 56.4,9,13.See in P. Oxy. I.36 = Chrest. Wilck. 273. ii.6—15: 'Ε[ὰ]ν δὲ / ⟨ὁ⟩ τελώνης ἐκφορ[τισθ]ῆ/ναι τὸ πλοῖον ἐπιζητήσῃ,/ ὁ ἔμπορος ἐκφορτιζέ[τ]ω/ καὶ ἐὰν μὲν εὑρεθῇ̣ τ[ι] ἕτε/ρον ἢ ὃ ἀπεγράψατο, στερή/σιμον ἔστω, ἐὰν δὲ μὴ εὑ/ρεθῇ, ὁ τελώνης [τὴ]ν δα/πάνην τῷ ἐμπό[ρ]ῳ τοῦ ἐκφορτισμοῦ ἀποδ[ότ]ω. Cf. also ζήτησις in SB V.8072 = P. Princ. II.20, possibly a fragmentary edict of the Prefect concerning abuses by the τελῶναι. A number of accounts which list the charges incurred by various ships frequently list a charge of ἐραυνητικ(οῦ): P. Oxy. XIV.1650. i.6,17 (ἐραυνητικ(οῦ) εἰς λ(όγον) σπονδ(ῆς)), 24; 1650a.3 (late first or early second century); 1651.2; P. Corn. 3.5 (mid-third century B.C.); SB IV.7365. i.2, 26, ii.22, 24, 27, iii.9, 17, iv.22, 24, v.3, 6, 8 (A.D. 104, all are ἐραυνητικοῦ ἐρίων, this is a rare instance of the occurrence of the term in relationship to transport by land). Alternatively payments to ἐραυνηταῖς are to be found in P. Oxy. XIV.1651.18; P. Fay. 104.14, 18, 19, 32 (late third century); Chrest. Wilck. 30. i.15 = UPZ I.149. i.15. In several cases the place of search is identified as Memphis; e. g. in P. Oxy. XIV.1650 and 1650a the account is headed by the rubric λόγος Μέμφεως; P. Corn. 3.5—6 describes the tax as ἐμ Μ[έμ]φ[ει]; in P. Fay. 104.12 the only indication is a reference to τέλους Νεικοπόλεως. Regulations for such searches are also laid down in a decree of Ptolemy Euergetes II, P. Teb. I.5. i—ii.22—27: the first three lines are very fragmentary but do mention ἐρευ̣ν̣ῶ̣ν̣, the regulations then continue: μηδὲ ἐπιλαμβάνεσθ̣α̣ι̣ ἐὰν μὴ ἐπὶ τῶν κατ' Ἀλεξά(νδρειαν) ὅρ[μων]/ [ἐ]π̣ὶ̣ τῆς ἐξαιρέ⟨σε⟩ως εὑ̣ρ̣ί̣[σκ]ηι τι τῶν μὴ τετελωνημ̣έ̣ν[ων]/ ἢ τῶν ἀπορρήτω̣ν̣, τ̣[αῦ]τα δὲ ἀνάγειν ἐπὶ τὸν διοικητήν. In general see N. Y. Clauson, Aegyptus 9 (1928), 267—268.

557 A number of edicts of the Prefects of Egypt suggest that the tax farmers frequently abused their powers; e. g. an edict possibly of M. Petronius Mamertinus (so Reinmuth), SB V.8072 = P. Princ. II.20: ἔπαρχος] Αἰγύπτου λέγει· κατηχοῦμαι τοὺς τελώνας δ̣ι̣[ν]ῶ̣ς σο̣φ̣ί̣σ̣ασθαι τοῖς διε̣ρχο̣μ̣ένοις καὶ ἀπαιτεῖν τ̣ὰ μ̣ὴ̣ ὀφιλόμενα αὐτοῖς ἐπὶ πλεῖ[ον] κ̣α̣ὶ̣ κρατεῖν τοὺς ἐπιγομέ̣ν̣[ο]υ̣ς [ἵνα] καὶ τὸ τάχιον ἀποχωρῖ̣ν̣ τινὲς ἐξωνήσωνται. παραγγέλλω [δὲ] οὖν αὐτοῖς παύσασθαι τῆς [τοιαύ]της πλ[ε]ονεξίας παρ̣[αχρῆμα? . . .] The famed edict of Tiberius Iulius Alexander of A.D. 68 also makes mention of numerous complaints about irregularities in the levying of various imposts. The older texts in OGIS 669 = IGR I.1263 have been superseded by H. G. E. White and J. H. Oliver, The Temple of Hibis in El Khargeh Oasis, Pt. 2: The Greek Inscriptions (New York 1939), nos. 3 (a previously unpublished and incomplete duplicate of the edict) and 4 (with extensive epigraphic commentary, pp. 31—44). It has, however, long been realized that important political considerations may have influenced the wording of this text and that its intent was as much propaganda as reform, cf. U. Wilcken, ZSS 42 (1921), 144—150; J. G. Milne, Review of A. C. Johnson, Roman Egypt . . ., JEA 22 (1936), 113; E. G. Turner, JRS 54 (1944), 60—61. There exists a considerable body of evidence that Egypt did indeed experience economic troubles in the previous two decades, see H. I. Bell, The Economic Crisis in Egypt under Nero, JRS 28 (1938), 3—8. This view of the edict is also supported by Mostafa el Abbadi, The Edict of Tiberius Iulius Alexander, Remarks on its Nature and Aim, BIFAO 65 (1967), 216—218; G. Chalon, L'édit de Tiberius Julius Alexander. Étude historique et exégétique, BHR 5 (Lausanne 1964), 53—68; H. Braunert, Die Binnenwanderung. Studien zur Sozialgeschichte Ägyptens in der Ptolemäer- und Kaiserzeit, BHF 26 (Bonn 1964), 272—280 and E. G. Turner, Oxyrhynchus and Rome, HSCPh 79 (1975), 14, n. 44. On the prevalence of *anachoresis* in the first century of Roman rule see H. I. Bell, Roman Egypt from Augustus to Diocletian, CE 13 (1938), 355—357. The existence of a disasterously high flood(s) in A.D. 45/46 has now been generally accepted; see L. R. Toepel, Studies in the Administrative and Economic History of Tebtunis in the First Century A.D., unpublished Ph. D. thesis (Duke 1973), 306—313 and D. Bonneau, Le fisc et le Nil. Incidences des irrégularités de la crue du Nil sur la fiscalité foncière dans l'Égypte grecque et romaine, Publication de l'Institut de Droit romain de l'Université de Paris n.s. 2 (Paris 1972), 159—164 (who points out that there followed a further two decades of irregular Nile flooding). The evidence for the long-lasting consequences of this flood has been traced in a series of documents from Philadelphia: P. Ryl. IV.595, SB IV.7462, P. Corn. 24 and P. Mich. X.594 cf. J. F. Oates, Fugitives from Philadelphia, in: Essays in Honour of C. Bradford Welles (New Haven 1966), 87—95 who cautions against building elaborate theories on the basis of this evidence; a further Cornell papyrus from Nemesion's office in Philadelphia of A.D. 56 is published by

J. F. Oates, Census Totals: Nemesion's Notes, in: A. E. Hanson (ed.), Collectanea Papyrologica I.189—196. For a papyrus copy of the edict see U. Wilcken, ZSS 42 (1921), 124—128 (lines 3—14 of the epigraphic text); republished as BGU VII.1563. Cf. the interpretation of O. W. Reinmuth, The Edict of Tiberius Julius Alexander, TAPhA 65 (1934), 248—259 and Idem, The Prefect of Egypt, 47—50 that the edict was not called forth by any particular economic or political crisis but rather was a normal *edictum translaticium* of the provincial governor in this case issued on the occasion of a five-yearly revision in taxes.

[558] For penalties see Dig. XXXIX.4.11.2: *Dominus navis si illicite aliquid in nave vel ipse vel vectores imposuerint, navis quoque fisco vindicatur: quod si absente domino id a magistro vel gubernatore aut proreta nautave aliquo id factum sit, ipsi quidem capite puniuntur commissis mercibus, navis autem domino restituitur*; Dig. XXXIX.4.15.5; (Quintilian), Declamationes 341: *Quod quis per publicanos inprofessum transtulerit, commissum sit.* For provision for repurchase see Dig. XXXIX.4.11.4.

[559] The absence of any prohibition is all the more indicative of a lack of concern by the emperor, since Republican precedents for such restrictions existed; Cicero, In Vatinium 12: *in eo magistratu cum tibi magno clamore aquaria provincia sorte optigisset, missusne sis a me consule Puteolos ut inde aurum exportari argentumque prohiberes*; Cicero, Pro Flacco 67: *cum aurum Iudaeorum nomine quotannis ex Italia et ex omnibus nostris provinciis Hierosolymam exportari soleret, Fluccus sanxit edicto ne ex Asia exportari liceret. quis est iudices qui hoc non vere laudare possit?* The measure is treated in detail by T. R. S. Broughton, A Significant Break in the Cistophoric Coinage of Asia, AJA 41 (1937), 248—249 and again in an excellent discussion by A. J. Marshall, Flaccus and the Jews of Asia (Cicero, Pro Flacco 28.67—69), Phoenix 29.2 (1975), 143—154. For the provision against the export of gold in the fourth century see CJ IV.63.2: *Non solum aurum barbaris minime praebeatur, sed etiam si apud eos inventum fuerit, subtili auferatur ingenio* (A.D. 374 ?). For this as a possible cause for a short range decline in the relative value of gold in terms of silver see G. Mickwitz, Geld und Wirtschaft im römischen Reich (Helsingfors 1932), 90 (who actually discusses a similar measure in CTh IX.23.1), and R. Remondon, A propos du papyrus d'Antinoë no. 38, CE 32 (1957), 140.

[560] For later controls on trade with Sasanid Persia see below p. 1066, n. 1732. Throughout the Principate some restrictions on commerce between Roman merchants and hostile German tribes are attested: Tacitus, Hist. IV.64,65; Germ. 41; Dio LXII.11.3, 15, 19.1, cf. LXIII. 2.4. Restrictions on the export of certain commodities, notably wine and oil (CJ IV.41.1), and arms (CJ IV.41.2) are primarily from the fourth century. Cf. also ILS 775 (A.D. 371). For a prohibition of the export of iron see Libanius, Orationes LIX.66—67. Also Expositio Totius Mundi 22 (= GGM II, p. 516 = GLM p. 108 = J. Rougé [ed.], Expositio Totius Mundi et Gentium, Sources Chrétiennes 124 [Paris 1966], p. 156): *has enim species duas hoc est aeramen et ferrum, non licet hostibus dare.* This little treatise is the Latin form of a Greek original of c. A.D. 359: see A. Klotz, ΟΔΟΙΠΟΡΙΑ ΑΠΟ ΕΔΕΜ ΤΟΥ ΠΑΡΑΔΕΙΣΟΥ ΑΧΡΙ ΤΩΝ ΡΩΜΑΙΩΝ, RhM 65 (1910), 606—607; J. O. Thomson, History of Ancient Geography (Cambridge 1948), 363. Such regulations were not yet in force in the first century; cf. Periplus, c. 6 (= Frisk, p. 2.29) which mentions the export of iron to Axum. For regulations on the use of certain Red Sea ports see below p. 901, n. 993.

[561] Such objects occur a number of times as exports from Egypt in the 'Periplus', e. g. at Axum: τῷ δὲ βασιλεῖ ἀργυρώματα καὶ χρυσώματα τοπικῷ ῥυθμῷ κατεσκευασμένα, Per. c. 6 (= Frisk, p. 2.33—34); at Muza there are unloaded for the Himyarite king χρυσώματα καὶ τορ[ν]ευτὰ ἀργυρώματα (for the possible Alexandrian origin of such products see above n. 508), Per. c. 24 (= Frisk, p. 8.8). In the Palmyrene text of the Palmyra Tariff inscription it is prescribed that the toll on a bronze statue be the same as on bronze; cf. G. A. Cooke, A Text-Book of North-Semitic Inscriptions (Oxford 1903), no. 147. iic. 29—31 = CIS II.3.3913.127—131.

[562] It is important to remember that all operating expenses were deducted from the receipts; cf. the final lines of SB IV.7365. v. 16—22: (γίνεται) ἐπὶ τὸ αὐτὸ 'Α̣μ̣ᾳ̣ (ὀβ)/ L 'Ισίωνι

καὶ Ἀμμ̣ω̣νίωι ἀρ̣α̣βοτοξ[ό]τ̣α̣ι̣ς̣ / ὀψωνίο̣υ ὡς τοῦ α̣ (δρ) ις (δρ) λβ̣[(δρ) Ἀθ̣] (ὀβ̣)/ ἃς καὶ διέγραψα εἰς τ̣ο δημό̣σ̣ι̣ο̣[ν τῇ τ]ετρά[δι] / δ τοῦ ἐνεστῶτος μηνὸς Φαῶφι [εἰς ἀρίθ]μησιν [ ]/ Θὼθ ἐπακολουθοῦντος Κολλ[ ]ου τ[ο]ῦ / Φλαυίου Ἡρακλείδου λιμ̣ενά̣ρ̣[χου]. Cf. P. Lond. III.1169.99—100, where the ἀραβοτοξότης is paid at the rate of 16 dr. per month. In P. Amh. II.77 = Chrest. Wilck. 277 (A.D. 139) we have a petition from Pabous ἱερέως . . . Ἀραβοτοξότου πύλη[ς] τῆς αὐτῆς Σοκνοπαίου Νήσου to the *epistrategus* accusing the tax collectors of peculation. Ἀραβοτοξόται were also stationed at Philadelphia, SB IV.7464 (A.D. 248, in this case 4). N. Y. CLAUSON, Aegyptus 9 (1928), 279—280; S. L. WALLACE, Taxation, 259—261, 323. Not only did the ἀραβοτοξόται guard the toll stations and deliver the receipts to the local headquarters (as in P. Lond. III.1169) but they also fulfilled other police functions, cf. P. Mert. I.29, an order to Ἀραβ[ο]τοξόταις κώμ(ης) Βακχιάδ(ος) to arrest a woman.

[563] On Ptolemaic practices see P. Rev. passim (see details given below p. 906, n. 1015); P. Paris. 62 = UPZ 112 (with extensive commentary). In general see U. WILCKEN, Grundzüge, I.186—188; C. PRÉAUX, L'économie royale, 371—379; G. M. HARPER JR., Tax Contractors and their Relation to Tax Collection in Ptolemaic Egypt, Aegyptus 14 (1934), 49—64 (an overly idealistic account of the workings of the system). For details on tolls see below n. 574 and n. 1199 for tax on *aromata.*

[564] S. J. DE LAET, L'évolution de l'administration douanière au Haut Empire et les sources juridiques, RIDA 2 (1949), 218—219; H. C. YOUTIE, Publicans and Sinners, ZPE 1 (1967), 1. The court of the Prefect had competence in all matters affecting taxation; cf. O. W. REINMUTH, The Prefect of Egypt, 98—105; cf. Philo, In Flacc. 133. REINMUTH's view that Claudius gave civil jurisdiction between the *fiscus* and private individuals to imperial procurators is a misleading interpretation of Tacitus, Ann. XII.60; cf. F. MILLAR, Historia 13.2 (1964), 180—187; IDEM, Historia 14.3 (1965), 363—367. See the criticism and suggested revisions in P. A. BRUNT, Procuratorial Jurisdiction, Latomus 25 (1966), 468—473 for tax cases. For the evidence from the Younger Pliny's letters see J. GAUDEMET, La juridiction provinciale d'après la correspondance entre Pline et Trajan, RIDA 3, ser. 11 (1964), 344—347. A good example of the type of decisions which involved tax-farmers is found in the list of judicial proceedings before the Prefect Petronius Mamertinus c. A.D. 135 in P.Oxy. XVII. 2111.i.13—19: in this case Mamertinus decided against the wishes of the τελῶναι ἐνκυκλίου Μενδη[σίου to hold over the case for further enquiry. See in general P. BURETH, Documents papyrologiques relatifs aux préfets d'Égypte (Essai de classement méthodique), RD 4 ser. 46 (1968), 257—260. The reference to στρατηγοί in SB V.8072 = P. Princ. II.20.11—12, apparently a prefectural edict dealing with the abuses of the τελῶναι, indicates that they had a general supervisory power over the tax farmers in their nome; cf. O. W. REINMUTH, CPh 31 (1936), 158. In a recently published document the collectors of an import tax submitted their accounts to the *strategus* of the Arsinoite nome, Collectanea Papyrologica I, no. 31. Tax cases might also, like other judicial business, come before the *strategus* if insufficient time was available during the *conventus* for the Prefect to deal with them. This appears to be the meaning of a corrupt passage in P. Oxy. XXXVI.2754, cf. N. LEWIS, ΝΟΗΜΑΤΑ ΛΕΓΟΝΤΟΣ, BASP 9.1/2 (1972), 30—31.

[565] Since the tax farmer was personally liable for the collection of all revenues for which he was responsible, in a time of economic distress men were reluctant to purchase tax contracts and those who did frequently resorted to extortion to obtain additional funds from the tax-payers. Both phenomena are well documented in the period from Tiberius to Nero; cf. H. I. BELL, CE 13 (1938), 356—359. Also see the statement in the edict of Tiberius Julius Alexander, OGIS 669. 10—15: ἔγνων γὰρ πρὸ παντὸς εὐλογωτάτην οὖσαν τὴν ἔντευξιν ὑμῶν ὑπὲρ τοῦ μὴ⟨ι⟩ ἄκοντας ἀνθρώπους εἰς τελωνείας ἢ⟨ι⟩ ἄλ / [λ̣]ας μισθώσεις οὐσιακὰς παρὰ τὸ κοινὸν [ἔ̣]θος τῶν ἐπαρχειῶν πρὸς βίαν ἄγεσθαι, καὶ ὅτι οὐκ ὀλ[ίγ]ο̣ν̣ ἔβλ̣α̣ψε τὰ πράγ̣ματα τὸ πολλοὺ̣ς ἀπείρους ὄντα⟨ς⟩ τῆς τοιαύ̣/της πραγματείας ἀχθῆναι μετ' ἀνάγκης ἐπιβληθ⟨έ⟩ντων αὐτοῖς τῶν τελῶν. διόπερ καὶ αὐτὸς οὔτε ἤ̣γαγόν τινα εἰς τελωνείαν ἢ⟨ι⟩ μίσθωσιν οὔτε ἄξω⟨ι⟩, ⟨ε⟩ἰ̣δὼς τοῦτο / συμφέρειν καὶ ταῖς κυριακαῖς ψήφοις τὸ με̣τ̣ὰ προθυμίας ἑκόντας πραγματεύεσθαι τοὺς ⟨δ⟩υνατούς. πέπεισμαι δὲ ὅτι οὐδ'

εἰς τὸ μέλλον ἄκοντάς τις ἄξει τελώνας / ἦ‹ι› μισθωτάς, ἀλλὰ διαμισθώσει τοῖς βουλομένοις ἑκουσίως προ(σ)έρχεσθαι, μᾶλλον τὴν τῶν προτέρων ἐπάρχων αἰώνιον συνήθειαν φυλάσσων ἦ‹ι› τὴν πρόσκαιρόν τινος ἀδικίαν μειμασάμενος. Cf. SEG XVI.861.

[566] SB IV.7365. v.21—22 notes that the account contained in that document had been audited by an official called the λιμενάρχης: ἐπακολουθοῦντος .... λιμẹνάṛ[χου]. For this official see N. Y. Clauson, Aegyptus 9 (1928), 280 (whose discussion of the office is unsatisfactory); see also OGIS 674.2—5: ὅσα δεῖ τοὺς μισθωτὰς τοῦ ἐν Κόπτωι ὑποπείπτοντος τῆι 'Αραβαρχίᾳ ἀποστολḭου πράσσειν κατὰ τὸν γνώμονα ... P. Mert. I.15 contains a tax collector's statement of compliance with these regulations: Λόγος τῶν περιγεγονότων ἀπὸ ἐπιτη/ρέσεως τῆς αὐτῆς πύλης ἀπ̣ὸ ᾱ ἕως λ̄ / τοῦ Θῶθ μηνὸς το(ῦ) ἐνεστῶτος ιη (ἔτους) Τραιανοῦ Καίσαρος τοῦ κυρίου κατὰ τὸṿ / γνώμονα, ἐπακολουθοῦντος Κολλούθ(ου) / πραγματẹυτοῦ Κλαυδίου Ἡρακλείδ(ου) λ̣ιμẹνάρχ(ου). The term 'limenarch' is not well documented and has suffered from inappropriate translations in LSJ and the LSJ Supplement. Λιμενάρχης is a term used outside of Egypt for two distinct types of officials. The first is a municipal magistrate: see most prominently the inscriptions from Thespia, e. g. IG VII.1826 and A. Δ. Κεραμοπούλλου, 'Επιγραφαὶ Θεσπιῶν, AD 14 (1931/32), 30, 35; cf. the republication of this text in P. Roesch, Thespies et la Confédération Béotienne (Paris 1965), 5 (line 10: λιμέναρ[χυ] ἐν Κρẹῦσ̣[ι]ν) and ibid., 214—219 where the office is discussed. Limenarchs occur as a college of magistrates in an inscription from Aradus in Syria, J. P. Rey-Coquais, Une nouvelle inscription de Rouad, AAS 18 (1968), 69—76 = IGLS VII.4016 bis. 10. In both cases the translation "harbour superintendent" seems most appropriate. Ambiguity is introduced by three legal texts; two suggest that limenarchs were numbered among the liturgical officials of a municipality, the third implies that they were imperial functionaries with police powers: Dig. L.4.18.10: *Hi quoque, qui custodes aedium vel archeotae vel logographi vel tabularii vel xenoparochi (ut in quibusdam civitatibus) vel limenarchae vel curatores ad extruenda vel reficienda aedificia publica sive palatia sive navalia vel mansiones destinantur, si tamen pecuniam publicam in operis fabricam erogent, et qui faciendis vel reficiendis navibus, ubi usus exigit, praeponuntur, muneribus personalibus adstringuntur,* and CJ VII.16.38: *Non idcirco minus, quod te limenarcha creato nemo contradixit, rei publicae nomine moveri tibi status quaestio potest*; cf. Dig. XI.4.4 (Paulus): *Limenarchae et stationarii fugitivos depraehensos recte in custodiam retinent. magistratus municipales ad officium praesidis provinciae vel proconsulis conpraehensos fugitivos recte transmittunt.* The latter text classes *limenarchae* with *stationarii* and contrasts them with municipal magistrates. Hence *limenarchae* could also be imperial officials similar to the well attested *stationarii* who were usually soldiers detached from their units to serve as police officials at frontiers, on roads and in towns (see below n. 954). It is possible that in Egypt 'limenarch' may have had yet a third meaning. The word is attested in one other papyrus, P. Giss. I.10, an account of A.D. 118 recording a payment to the λιμενάρχαις (line 4). Kornemann suggests that λιμενάρχαι are the officials who received the grain brought to the Nile ports, cf. T. Reekmans and E. Van't Dack, A Bodleian Archive on Corn Transport, CE 27 (1952), 157, 186—187 who suppose that the untitled Paniscus in a second century B.C. document is harbour-master at Syene. Another possibility may exist for the meaning of λιμενάρχης. It has been argued by Fiesel and Rostovtzeff that λιμήν frequently means "tax-district" in Egyptian papyri and ostraca and on Babylonian seal inscriptions; see L. Fiesel, GöttNachr (1924), 2.81; M. Rostovtzeff, Seleucid Babylonia. Bullae and Seals of Clay with Greek Inscriptions, YCS 3 (1932), 79—81 and Idem, Staatspacht, 390—391, cf. L. Robert, ΛΙΜΕΝΕΣ, Hellenica 11/12 (1960), 263—266. Fiesel's and Rostovtzeff's interpretation of *limen* is confirmed by the heading in the Palmyrene version of the Palmyra Tariff inscription, CIS II.3913. ii.1: *nmws' dy mks' dy lmn' dy hdryn' tdmr.* This extended meaning of *limen* is also found for the Greek loan word in Syriac, see S. Brock, Some Aspects of Greek Words in Syriac, in: A. Dietrich, Synkretismus im syrisch-persischen Kulturgebiet, AAWG 96 (Göttingen 1975), 83—84. The meaning of λιμενάρχης in SB IV.7365 and P. Mert. I.15 may thus be "supervisor of the tax district".

[567] It is important to remember that much of the evidence cited here (accounts and receipts) come from transit tolls rather than taxes on imports and exports, although in cases like P. Oxy. I.36 = Chrest. Wilck. 273 this is not certain, and in the case of P. Cair. Zen. 59012 (cf. below p. 951, n. 1199) imports are definitely referred to. The bureaucratic practice and procedure appears from our limited knowledge not to be different in the two cases.

[568] N. Y. Clauson, Aegyptus 9 (1928), 280 assumes that all the accounts were audited in Alexandria, but cites no evidence for his belief.

[569] See above the accounts in n. 549. It is clear that the monthly totals submitted for official scrutiny contain only a figure derived from the addition of the charges on both imports and exports with a deduction for expenses. The best which can be hoped for is that an overall total derived from the levy of each individual tax in a nome or even an *epistrategia* finally reached Alexandria. A very fragmentary and enigmatic Latin document ChLA IV.264 may contain a summary of this sort, e. g., in line 14 appears the total of the revenue despatched to Alexandria from the salt monopoly: *Item [ṣa]linae [........] per Livium .[...*

[570] For the normal Roman Republican procedure see E. Badian, Publicans and Sinners (Oxford 1972), 68—81; for the Empire see S. J. de Laet, Portorium, 370—403. The great *societates publicanorum* ceased to exist under the Empire and, as pointed out above, the procedure in Egypt was considerably different. The Egyptian τελῶναι were in general very small-scale operators, but the men who farmed the *vectigal Maris Rubri* may have been an exception (see below p. 849, n. 808).

In Egypt the leasing of tax contracts and monopolies by a group of individuals is a well attested legal procedure. The contract usually gives the name of the ἀρχώνης (in tax contracts the equivalent of the Roman *manceps*), who is primarily responsible for the contract, and also the names of his μέτοχοι (*socii*). See R. Taubenschlag, Die societas negotiationis im Rechte der Papyri, ZSS 52 (1932), 64—71. Receipts issued by such tax-farming firms usually only state the name of the ἀρχώνης followed by καὶ οἱ μέτοχοι. The Roman system of holding public auctions for tax contracts (cf. Festus in Paulus p. 151M: *manceps dicitur, qui quid a populo emit conducitve, quia manu sublata significat se auctorem emptionis esse*; the etymology is wrong, but it does reveal how the bidding worked; cf. E. Badian, Publicans, 136, n. 7) is also attested for Egypt. Our best evidence is a letter from the *strategus* of the Oxyrhynchite nome to Asclepiades, the *basiliogrammateus* of the same nome. At the first auction no-one had come forward to bid: Ἐπὶ τῆς γενομένης διαπράσεως τῶν τελωνι/κῶν ὑπό τε ἐμοῦ καὶ σοῦ ἐπὶ παρόντων καὶ τῶν / εἰωθότων, δυσπειθούντων τῶν τὸ ἐν/κύκλιον ἀσχολουμένων καὶ ⟨⟨τοῦ⟩⟩ τὸ ἀγο/ρανόμιον δημοσιωνῶν ὡς ἱκανὰ βλαπτο/μένων καὶ κινδυνευόντων μεταναστῆ/ναι. (P. Oxy. I.44 = Chrest. Wilck. 275.4—10). Subsequent auctions were no more successful: τῶν ὠνῶν / μὴ ἐπιδεδεγμένων ὑπὸ τῶν τελωνῶν / μηδὲ μὴν ἄλλων προσερχ[ομ]ένων αὐ/τοῖς [[πολλάκις]] πολλάκις προκηρυχθεισῶν. (ll.18—21). On this document see WO I.593—594; M. Rostovtzeff, Staatspacht, 467—468; S. L. Wallace, Taxation, 165—166. A written application to farm the prostitution tax from A.D. 46 is found in P. Grenf. II.41. The document is addressed to a κράτιστος (cf. WO I.590, who suggests a procurator) and lists the payments and obligations which the applicant is willing to undertake. But there is no evidence that applicants were able to obtain official figures for the annual yield of a tax. In general on the letting of taxes in Egypt see WO I. 572—601; O. W. Reinmuth, The Prefect of Egypt, 38—39, 59—84. The compulsory appointment of τελῶναι was illegal (Dig. XLIX.14.3.6, Callistratus citing a rescript of Hadrian) and the Prefects of Egypt usually tried to avoid the practice, SEG XVI. 861.10—15; P. Oxy. I.44.11—16.

[571] Pliny, NH XII.64—65. The road from Leuce Come also ran first to Petra, Per. c. 19 (= Frisk, p. 6.28—29). In the past two decades excavations have been carried out at a number of Nabataean and Roman sites along this route. The remains at the Nabataean site of ʿAvdat go back to the third century B.C., but show a burned layer followed by a long period during which the site was abandoned. See report in A. Negev, Avdat, a Caravan Halt

in the Negev, Archaeology 14.2 (1961), 123—125. For the remains of the fortified camp of the Nabataean army which have been found at ʿAvdat see A. Negev, Nabatean Inscriptions from ʿAvdat (Oboda), IEJ 13.2 (1963), 117; cf. the earlier view that this had been a Roman camp, A. Negev, ʿAvdat, IEJ 9.4 (1959), 275. Negev has also argued that the heavily guarded route from Petra to Gaza went out of use in the middle of the first century of our era: A. Negev, The Date of the Petra-Gaza Road, PEQ 98 (1966), 89—98; Idem, Oboda, Mampsis and Provincia Arabia, IEJ 17.1 (1967), 46—55; Idem, The Chronology of the Middle Nabatean Period, PEQ 101 (1969), 6—13, where he cites evidence from ʿAvdat, Kurnub (Mampsis?), and Sobata. For doubts about Negev's chronology, see G. W. Bowersock, A Report on Arabia Provincia, JRS 61 (1971), 225. The most comprehensive survey of the Nabataean remains on the Petra-Gaza road has been recently published by Z. Meshel and Y. Tsafrir, The Nabataean Road from ʿAvdat to Shaʿar-Ramon, PEQ (1974), 103—118; PEQ (1975), 3—15. The occupation of ʿAvdat in the early second century is attested by several Nabataean inscriptions from the reign of Trajan found at the site, A. Negev, IEJ 13.2 (1963), 117—220, nos. 11 (A.D. 107) and 12 (A.D. 126). Two Latin inscriptions from a "military cemetery" at Kurnub (A. Negev, IEJ 17.1 [1976], 52—53) indicate that Roman troops also guarded the more northerly of the two routes from Petra to Gaza (see also below p. 895, n. 966). It may also have been possible for caravans to round the Gulf of Aqaba and head west across the Sinai to Egypt along the path of the Darb el-Hajj and the Darb e-Shawi but the only epigraphic remains found to date point to the use of these routes in the Islamic period. See B. Rothenberg, An Archaeological Survey of South Sinai, PEQ 102 (1970), 11, 13, 24—25 who notes that the route was already in use in the Bronze Age.

[572] A. H. M. Jones, The Cities of the Eastern Roman Provinces^2 (Oxford 1971), 271 and J. Colin, La Galilée de l'Évangile et les villes païennes de la Palestine, AC 34 (1965), 189.

[573] Pliny describes the charges on the road from Thomna to Gaza: *ut sumptus in singulas camelos ӾDCLXXXVIII ad nostrum litus colligat, iterumque imperii nostri publicanis penditur* (NH XII.64—65); cf. S. J. de Laet, Portorium, 333—334.

[574] In the Ptolemaic period the local taxes for Palestine were put up at auction, see the fanciful tale in Josephus, AJ XII.168—169 together with P. Cair.Zen. I.59037; cf. E. G. Turner, Egypt and the Roman Empire: The ΔΕΚΑΠΡΩΤΟΙ, JEA 22 (1936), 16 noting that although the story may be fictive, the administrative practice described is probably genuine. Some indication of the arrangements of Antiochus III in the territory he captured from the Ptolemies is found in the lengthy Greek inscription which came to light at Scythopolis in late 1960, see the editio princeps in Y. H. Landau, A Greek Inscription Found near Hefzibah, IEJ 16.1 (1966), 54—70. In general on the continuation of the Ptolemaic system of taxation in Palestine under the Seleucids and Julio-Claudians see M. Rostovtzeff, Staatspacht, 479—481; Idem, SEHHW, 1.349—350; S. J. de Laet, Portorium, 86, 331, n. 2.

[575] It is here assumed that for most of Palestine the later Roman roads follow earlier communication routes. The more northerly of the two routes from Philadelphia ran via Gerasa and Pella to Scythopolis; cf. the milestones in P. Thomsen, Die römischen Meilensteine der Provinzen Syria, Arabia und Palaestina, ZDPV 40 (1917), 61—67, nos. 199—214 (Gerasa to Philadelphia), nos. 215—228 (Gerasa-Pella-Scythopolis); C. B. Welles, in: C. H. Kraeling (ed.), Gerasa, City of the Decapolis (New Haven 1938), 462—466, no. 252 was found since Thomsen. On the road from Pella to the Jordan see R. H. Smith, Pella of the Decapolis (Wooster 1973), 1—2. See also M. Avi-Yonah, The Development of the Roman Road System in Palestine, IEJ 1 (1950/51), 57 (map.). From Heshbon, south of Philadelphia, another road ran west via Livia to Jericho, P. Thomsen, ZDPV 40 (1917), 67—68, nos. 229—231. Both Philadelphia and Heshbon lay on the road from Petra to Damascus, ibid., 32—33, 34—57: Fragments of fourteen Roman milestones of a road running northwest from Philadelphia in the direction of Pella and Scythopolis were discovered in 1963, see H. Donner, Das deutsche evangelische Institut für Altertumswissenschaft

des Heiligen Landes. Anhang III: Römische Straßenbauarbeiten in der nördlichen *belqa* zur Zeit des Kaisers Caracalla (211—217 n. Chr.), ZDPV 81 (1965), 46—49; see also a further milestone from the Gerasa-Pella road published by E. Kutsch, Ein Stück eines römischen Meilensteines in *'anğara*, ZDPV 81 (1965), 132—137.

[576] Cf. S. J. de Laet, Portorium, 334.

[577] P. Thomsen, ZDPV 40 (1917), 33—34 (Damascus—Scythopolis) (cf. two new milestones published by M. Avi-Yonah, A New Dating of the Roman Road from Scythopolis to Neapolis, IEJ 16.1 [1966], 75—76), 32 (Bostra—Gadara); cf. M. Avi-Yonah, IEJ 1 (1950/51), 57 (map) and S. Mittmann, Die römische Straße von Gerasa nach Adraa, ZDPV 80 (1964), 115 (map of a new exploration of the Gerasa-Adraa road and its east-west branches).

[578] See most recently G. W. Bowersock, JRS 63 (1973), 139—140; cf. earlier A. Negev, PEQ 101 (1969), 13—14, criticised by G. W. Bowersock, JRS 61 (1971), 225.

[579] See discussion above pp. 643—644. The neighbouring (cf. Pliny, NH V. 89) city of Emesa, through which the major route from the Orontes Valley to Palmyra ran (see R. Thomsen, ZDPV 40 [1917], 25—27, nos. 38—48; H. Seyrig, Antiquités syriennes, 76: Caractères de l'histoire d'Émèse, Syria 36 [1959], 184—186) was ruled by a native dynasty well into the first century of our era.

[580] See the great tariff inscription of A.D. 137: OGIS 629 = IGR III.1056 (Greek text) = CIS II.3.3913 (Palmyrene text). M. Rostovtzeff, Staatspacht, 405—406 and A. H. M. Jones, The Cities of the Eastern Roman Provinces^2, 458—459, n. 52 argue that this is a frontier tariff. This is almost certainly incorrect.

[581] The commentaries on the Palmyra Tariff are as follows: M. de Vogüé, Inscriptions palmyréniennes inédites, JA 8 ser. 1 (1883), 231—242; Idem, JA 8 ser. 2 (1883), 149—183, 549—550; R. Duval, La loi fiscale de Palmyre, JA 8 ser. 2 (1883), 537—539; E. Sachau, Über den Palmyrenischen νόμος τελωνικός, ZDMG 37 (1883), 562—571; H. Dessau, Der Steuertarif von Palmyra, Hermes 19 (1884), 486—533 (Greek text only); S. Reckendorf, Der aramäische Theil des palmyrenischen Zoll- und Steuertarifs, ZDMG 42 (1888), 370—415; G. A. Cooke, A Text-Book of North Semitic Inscriptions, 313—340; J.-B. Chabot, Glanures palmyréniennes, JA 11 ser. 12 (1918), 301—317; J. G. Février, Essai sur l'histoire politique et économique de Palmyre (Paris 1931), 39—42, 47—49; D. Schlumberger, Réflexions sur la loi fiscale de Palmyre, Syria 18 (1937), 271—297; H. Seyrig, Syria 22 (1941), 155—167; A. Piganiol, Observations sur le Tarif de Palmyre, RH 195 (1945), 10—23; M. Rostovtzeff, Staatspacht, 405—406; Idem, Seleucid Babylonia, YCS 3 (1932), 75—76; Idem, SEHRE 2.662, n. 28; A. H. M. Jones, The Cities of the Eastern Roman Provinces^2, 458—459, n. 52.

[582] For the routes across the Euphrates from Palmyra see below p. 837, n. 775. A *publicanus* is attested for Palmyra early in the reign of Nero, CIS II.4235 = Inv. VIII.57: *aedificavit L. Spedius Chrysanthus publicanus sepulcrum hoc sibi et filiis suis et domesticis suis* (Palmyrene text). Almost certainly imperial rather than local taxes are involved; cf. H. Seyrig, Syria 22 (1941), 168—169. Evidence for an imperial tax of 25% at the Euphrates frontier comes from two inscriptions from the Agora at Palmyra. The first, a bilingual text of A.D. 161 set up by οἱ ἀναβάν/τες ἀπὸ Σπασινου Χαρακος ἔμπο/ροι to honour Μᾶρκον Αἰμίλιον Μαρκιανὸν/ Ἀσκληπιάδην, Ἀντιοχέων βου/λευτήν, τεταρτώνην; the second (A.D. 174): *L. Antonio Callis/trato manc(eps) IIII merc./Galenus actor.*/Λ. Ἀντωνίω Καλ/λιστράτω τεταρτώ/νη Γαληνὸς πραγ/ματευτὴ[ς] ἴδιο[ς]; cf. H. Seyrig, Antiquités syriennes, 38: Inscriptions grecques de l'agora de Palmyre, Syria 22 (1941), 263—264, nos. 24—25 = AE (1947), 179—180, cf. S. J. de Laet, Portorium, 335—336. For the farming of the municipal *octroi* at Dura see below n. 1519.

Immediately after his conquests of A.D. 115—117 Trajan seems to have extended imperial frontier tolls into the former Parthian regions. This appears to be the sense of a fragmentary passage of Fronto's 'Principia historiae', p. 209 (Naber): *cum praesens*

Traianus Euphrati et Tigridis portoria equorum et camelorum trib . . . . . cer caesus est; cf. S. J. de Laet, Portorium, 339. On the date of composition see most recently E. Champlin, The Chronology of Fronto, JRS 64 (1974), 154.

[583] A Roman official at Palmyra adjudicates disputes over taxes: π[ε]ρὶ τούτου δικαιοδο-[τείσ]θω παρὰ τῷ ἐν Παλμύροις τεταγμένῳ, OGIS 629.105 = CIS II.3913.127—128; so already H. Dessau, Hermes 19 (1884), 524; M. Rostovtzeff, Staatspacht, 406; cf. J. G. Février, Essai, 67. So also H. Seyrig, Antiquités syriennes, 12: Textes relatifs à la garnison romaine de Palmyre, Syria 14 (1933), 156—157; Idem, Syria 22 (1941), 159—160. The correctness of this view is suggested by the dedication made by the *boule* and the *demos* of Palmyra to C. Vibius Celer, ἔπαρχον / τῆς ἐνθάδε εἴλης, τὸν πο/λείτην καὶ σύνεδρον: Syria 14 (1933), 159, no. 1 = SEG VII.134. Seyrig dated this inscription to the time of Septimius Severus by identifying the man in the Palmyra text with a C. Vibius Celer on a stone from Gerasa. This date can no longer stand and we now must date Celer and thus also the earliest evidence for a Roman garrison at Palmyra to the last years of Hadrian. A. Vibius Celer *proc(urator) Aug(usti)* appears on an inscription from Gerasa during the governorship (of Arabia) of Caius Allius Fuscianus; CIL III.118 = CIL III.14156^{3} = C. B. Welles in Gerasa no. 165. Fuscianus appears as a senator and *patronus* of the guild of the *lenuncularii tabularii* at Ostia in A.D. 152 (CIL XIV.250 = ILS 6174; cf. CIL XIV. 246. On these see R. Meiggs, Roman Ostia^{2} [Oxford 1973], 206—207, 315—316) and again in A.D. 140, AE (1935), 84. Since the Palmyra text represents an earlier stage of Celer's career than the Gerasa inscription (before A.D. 140), the inscription published by Seyrig falls into the last years of Hadrian. Also an undated inscription from the agora at Palmyra in honour of Fulvius Titianus [. . πρεσ]/βευτὴν Σεβαστοῦ καὶ λ[ογιστήν·], H. Seyrig Syria 22 (1941), 243—244, no. 13. Two further enigmatic texts from Palmyra may belong here. Both are undated and give the *cursus honorum* of a certain Celsticus: first as centurion of three legions, *III Gallica, IIII Scythica* and *VI Ferrata*, next as *curator [. . . . .]*, *curator ripae superioris et inferioris*, and finally *praefectus* of the *cohors I Sebastena*; partially published CIS II.2.3962; alluded to from a letter of Seyrig by F. J. Gilliam, The Dux Ripae of Dura, TAPhA 72 (1941), 174—175. Possibly *curator* is here equivalent to *procurator*. The post of *curator ripae* is attested almost exclusively for the Tiber, hence *curator riparum et alvei Tiberis* in ILS 5927; 5928; 5929; or *curatores riparum qui primi terminaverunt* in ILS 5922; 5923; 5924. The find spot of our texts, Palmyra, suggests that *curator ripae superioris et inferioris* should refer to the Euphrates. *Ripa* may be used here in the sense of customs border, as can be its meaning elsewhere.

[584] Many accept the voyage of Philostratus to India and his adventures there as historical; so esp. J. Charpentier, The Indian Travels of Apollonius of Tyana (Uppsala 1934), 6—66; S. A. Nodelman, A Preliminary History of Characene, Berytus 13.2 (1960), 101; J. I. Miller, Spice Trade, 226—227; B. N. Mukherjee, An Agrippan Source, 149—150, n. 243, 154, n. 264, 186—187. Cf. A. Dihle, PCPhS 190 (1964), 17—23, who notes that any pagan Greek or Latin author of stylistic pretentions relied for his information about India on Megasthenes and Eratosthenes. Later information was usually excluded. Cf. also G. W. Bowersock, Greek Sophists in the Roman Empire (Oxford 1969), 5. On the romantic tradition to which the story belongs and the reasons for choosing India as the setting in part see T. Szepessy, Die Aithiopika des Heliodoros und der Griechische Sophistische Liebesroman, AAntHung 7 (1957), 244—246.

[585] Philostratus. VA I.20: παριόντας δὲ ἀυτοὺς ἐς τὴν μέσην τῶν ποταμῶν ὁ τελώνης ὁ ἐπιβεβλημένος τῷ Ζεύγματι πρὸς τὸ πινάκιον ἦγε καὶ ἠρώτα, ὅ τι ἀπάγοιεν, ὁ δὲ 'Απολλώνιος "ἀπάγω" ἔφη "σωφροσύνην δικαιοσύνην ἀρετὴν ἐγκράτειαν ἀνδρείαν ἄσκησιν," πολλὰ καὶ οὕτω θήλεα εἴρας ὀνόματα. ὁ δ' ἤδη βλέπων τὸ ἑαυτοῦ κέρδος "ἀπόγραψαι οὖν" ἔφη "τὰς δούλας." ὁ δὲ "οὐκ ἔξεστιν," εἶπεν, "οὐ γὰρ δούλας ἀπάγω ταύτας. ἀλλα δεσποίνας." Miller makes much of this story, from such practices were Pliny's figures derived; see J. I. Miller, Spice Trade, 226. Similarly also B. N. Mukherjee, An Agrippan Source, 63—64; cf. S. J. de Laet, Portorium, 338. Even though the work is fictional, such details about practices on the frontier are of some value, if not for the time of Apollonius of Tyana,

then for that of Philostratus; but the real nature of the incident has perhaps been misunderstood. Traffic in slaves was rigidly regulated by the Hellenistic kingdoms and the practice was continued by the Romans. Hence the power of seizure in P. Cair. Zen. I. 59093; on this document see G. M. Harper, Commercial Relations between Egypt and Syria, AJPh 49 (1928), 28—29. On stringent regulations for slave registration see P. Harr. 61 = SB VI.8993, a fragment of a decree of 174/3 B.C.; cf. comments of H. I. Bell, Review of the Rendel Harris Papyri of Woodbrooke College, Birmingham, ed. J. E. Powell (Cambridge 1936), JEA 24 (1938), 142; F. M. Heichelheim, An Alexandrian Decree of 175/174 B.C., JEA 26 (1940), 154—156 (with speculation on the application of this law to the rest of Egypt); C. Préaux, L'économie royale, 307—308; cf. now the documents listed in M. G. Raschke, An Official Letter to an Agoranomus: P. Oxy. 1.170, BASP 13.1 (1976), 18—19. For Mesopotamia see the seals from Uruk which bear witness to the existence of a special tax on slaves termed ἀνδραπόδων or ἀνδραποδικόν (τέλος) or ἀνδραποδική (ὠνή); cf. M. Rostovtzeff, YCS 3 (1932), 30—33, 36—39, nos. 16, 19—24, 42 and 48 and commentary 65—69. Cf. from Seleucia a *bulla* with the inscription ἀνδραπ[οδικῆς]/ Σελευκε[ίας] / BKP/ εἰσαγμ[ ] (no. 13). See also the high charges at Palmyra where slaves are the first item on the tariff list, OGIS 629.17—19: Παρὰ [τῶν παῖδας εἰς Πάλμυρα]/ ἢ εἰς τὰ ὅ[ρια τὰ Παλμυρηνῶν εἰς]/αγόντω[ν πράξει ἑκάστου σώματος 𐆖κβ'] (restored from the Palmyrene). The Egyptian evidence from the Roman period is abundant for such controls. For the need to register slaves see the Gnomon of the Idios Logos, BGU V. § 60. For restriction on the export of slaves from Egypt see BGU V. § 65: δοῦλοι κατ' ἄγνοιαν τοῦ δεσπότου ἐξαχθέντες ἐπράθησαν; § 66: οἱ ἐξ[ὸ]ν̣ ἐκπλεῖν ἀναπόστολοι πλέοντες τριτο̣λογο[ῦντ]αι, ἐὰν δὲ δούλους ἰδίο̣[υ]ς ἐξάγωσιν ἀναποστόλους ἐξ ὅλων ἀναλαμβάν[οντα]ι̣.; also § 67 and § 69. See commentary in W. Uxkull-Gyllenband, Der Gnomon des Idios Logos (Berlin 1934), 65—69; W. Schubart, Oikogeneia, in: Raccolta di Scritti in Onore di Giacomo Lumbroso (1844—1925) (Milan 1925), 59—60; J. Biezunska-Malowist, Recherches sur l'esclavage dans l'Égypte romaine, CRAI (1959), 203—210; cf. Idem, La traite d'esclaves en Égypte, in: Proceedings of the XIV International Congress of Papyrologists, Oxford, 24—31 July 1974, GRM 61 (London 1975), 13—15 on the import and registration of foreign slaves into Roman Egypt. For the purpose of *anakrisis*, particularly attested for slaves imported into Egypt, see H. J. Wolff, Neue juristische Urkunden: III. Beaufsichtigung des Sklavenhandels im römischen Ägypten: Die Anakrisis, ZSS 83 (1966), 344—347. See also on restrictions in Sicily, Dig.L. 16.203 (Alfenus Varus): *In lege censoria portus Siciliae ita scriptum erat: 'servos, quos domum quis ducet suo usu, pro is portorium ne dato'. quaerebatur, si quis a Sicilia servos Romam mitteret fundi instruendi causa, utrum pro his hominibus portorium dare deberet nec ne. respondit duas esse in hac scriptura quaestiones, primam quid esset 'domum ducere', alteram, quid esset 'suo usu ducere'. igitur quaeri soleret, utrum, ubi quisque habitaret sive in provincia sive in Italia, an dumtaxat in sua cuiusque patria domus esse recte dicetur.* It is to such regulations and taxes, as well as to the general practice at customs stations (see above n. 556) that the story specifically refers.

[586] Annexation by Vespasian: Suetonius, Vesp. 8.4.

[587] Commagene annexed on the death of Antiochus III: Tacitus, Ann. II.42, 56; cf. F. B. Marsh, Reign of Tiberius (Oxford 1931), 80—81; R. Seager, Tiberius (Berkeley 1972), 96—97, 101—102. The kingdom was restored to Antiochus IV by Gaius in A.D. 38: Dio LIX.8.2, who notes that τὰ παραθαλάσσια τῆς Κιλικίας was added to the gift.

[588] The existence of a province of Cilicia before A.D. 72 is doubtful. On the abolition of the Republican province see R. Syme, Observations on the Province of Cilicia, Anatolian Studies Presented to W. H. Buckler (1939), 324—327. See D. Magie, RRAM 2.1272, n. 44, 1419—1420, n. 68, 1439—1440, n. 27; A. H. M. Jones, The Cities of the Eastern Roman Provinces², 205, 208. During the early Empire Cilicia Trachia was ruled by the various vassal kings of Commagene, Cappadocia, and Galatia, while Cilicia Pedias was part of the province of Syria.

[589] Such a route would be of considerable antiquity. For the late seventh century B.C. see E. Cavaignac, A Propos du document nouveau BM. 25124: Les deux routes d'Asie Mineure, JA 244 (1956), 344; cf. A. Goetze, An Old Babylonian Itinerary, JCS 7 (1953), 67—68. The Achaemenid Royal Road also may have crossed the Euphrates at Samosata. The Arab kingdom of Osrhoene, which bordered on Commagene, with its capital at Edessa was a Roman vassal state at least from the time of Lucius Verus onward; see A. R. Bellinger and C. B. Welles, A Third-Century Contract of Sale from Edessa in Osrhoene, YCS 5 (1935), 122—127.

[590] For the trade routes of Armenia see H. A. Manandian, The Trade and Cities of Armenia^2, 47—52, 78—115. On the routes east into Azerbaijan (Atropatene) see V. Minorsky, Roman and Byzantine Campaigns in Atropatene, BSOAS 11 (1943/46), 253—254.

[591] Apart from the Dura papyri, which are primarily private business contracts and military documents, we have little indication of how tax accounts were kept.

[592] This is assumed by J. I. Miller, Spice Trade, 224, 227—228.

[593] The normal procedure was to deduct the costs incurred by the provincial government and the payment of the legions and auxiliaries stationed in a province and then send the balance (if any) to Rome. In Egypt the problem was more complex, since a large portion of the surplus was sent to Italy in kind, primarily as grain. Since the billon issues of the Alexandrian mint were certainly not sent to Rome, it is possible that these were used to purchase gold in Alexandria for shipment to the capital (see below p. 1005, n. 1462); cf. A. C. Johnson, Roman Egypt, 438—440. For the *fiscus Alexandrinus* see below p. 1005, n. 1462.

[594] Cf. J. I. Miller, Spice Trade, 227, who argues that tax declarations at the frontier included a statement about the intended destination of all exports!

III

[595] So G. F. Hudson, Europe and China, 81—85, 101; M. A. R. Colledge, The Parthians, 78—84; H. A. Manandian, The Trade and Cities of Armenia^2, 74—75; E. H. Warmington, Commerce^2, 274—275.

[596] G. F. Hudson, Europe and China, 99; J. Thorley, G&R 16 (1969), 209; J. I. Miller, Spice Trade, 219—223, 229—230; N. Cameron, Barbarians and Mandarins, 20; cf. E. H. Warmington, Commerce^2, 315—318 (more cautious).

[597] For the importance of various forms of state trade, — i. e. tribute, gifts, etc. — in Han international commerce see above pp. 611—621. Since, however, our evidence comes almost exclusively from court records there is a natural bias in favour of recording such information. The court 'Annals' with their Confucian bias also tended to disregard private commerce. For the Confucian nature of the 'Han-shu' see H. H. Dubs, FEQ 6 (1946), 35. The authors of the official histories were not concerned with commerce but rather with recording dynastic events and educating future bureaucrats, see E. Balazs, L'histoire comme guide de la pratique bureaucratique, in: W. G. Beasley and E. G. Pulleyblank (eds.), Historians of China and Japan (London 1961), 78—94, translated in: E. Balazs, Chinese Civilization and Bureaucracy, Variations on a Theme, ed. A. F. Wright (New Haven 1964), 129—149. For the concern of Shih-huo chih chapters of the official histories with the administration see R. C. Blue, The Argumentation of the Shih-huo Chih Chapters of the Han, Wei and Sui Dynastic Histories, HJAS 11.1/2 (1948), 7—8. For documentary evidence of frontier trade see above pp. 638—639.

[598] See the biographies of merchants in the 'Han-shu' discussed by N. L. Swann, A Woman among the Rich Merchants: The Widow of Pa (3rd Century B.C.), JAOS 54 (1934), 190—193 and R. C. Blue, HJAS 11.1/2 (1948), 7.

[599] A single exception from the Ch'in period is known: Wu-chih Lo grew rich by bartering silk for horses and cattle with the ruler of the Jung tribes; SC 129.3b, cf. B. WATSON, Records, 2.483; HS 91.5b, cf. N. L. SWANN, Food and Money, 430. Slightly better attested is the transfrontier trade in the Southeast, YING-SHIH YÜ, Trade and Expansion, 93—94. For border markets see above p. 715, n. 223.

[600] For merchants in the Han period see N. L. SWANN, Food and Money, 24—28; cf. HS 24 A. 11b with ibid., 164. An important exception was the wealth and power of those engaged in smelting and casting iron; HS 24 B. 9b, cf. N. L. SWANN, op. cit., 264 and E. BALAZS, The Birth of Capitalism in China, in: IDEM, Chinese Civilization and Bureaucracy, 44—45.

[601] For example the memorial of the imperial minister Chia I in 178B.C. who advised the encouragement of agriculture to prevent the downfall of the Dynasty: "'Now in these days [the people] have turned their backs on the fundamental (that is agriculture), and [instead] are rushing into the secondary (that is crafts and commerce), and [therefore] those who eat [without cultivating] are [proportionately] large in number — this is a great outrage upon the empire! . . . These outrages and robberies are practiced openly; and they are not stopped by any means whatsoever!'" Thus he argues the Dynasty is like a boat in danger of being capsized. HS 24A.8b—9a, translated in N. L. SWANN, Food and Money, 154. Chia goes on to urge that men live by their own labour and turn from the secondary occupations to agriculture, then the stores and supplies of food and clothes will be sufficient; HS 24A.10a. In the eyes of the government ministers merchants and traders disrupted the tranquility and good order of the kingdom by their hoarding practices. HS 24A. 1b, 24B.12a, cf. N. L. SWANN, op. cit., 222, 278. The author of the 'Han-shu', Pan Ku, also approved imperial control over market prices through offices which equalized prices by regulating the transportation of supplies throughout the empire; HS 24B.26b.
On the growth of Confucianism among Han bureaucrats see YÜ-CH'ÜAN WANG, HJAS 12 (1949), 163—165; also N. L. SWANN, Pan Chao, 7; D. C. TWITCHETT, Financial Administration under the T'ang Dynasty^2, (Cambridge 1970), 206—208. For Pan Ku's condemnation of commerce and industry see LIEN-SHENG YANG, Notes on Dr. Swann's 'Food and Money in Ancient China', HJAS 13 (1950), 526.

[602] For land tax under the Han see HIRANAKA REIJI, Kandai no denso to saigai ni yoru sono gemmen, I, Ritsumeikan bungaku (1959), 523—534; cf. RBS (1959), no. 100. For the land tax under the Chin see LIEN-SHENG YANG, Notes on the Economic History of the Chin Dynasty, HJAS 9 (1946), 128—135. For government measures to encourage agriculture and the bureaucratic organization of the Former and Later Han involved in such measures see the study of NISHIMURA GENYU, Kandai no kannō seisaku: Zaisei kikō no kaikaku ni kanren shite, Shirin 42 (1959), 412—444; cf. RBS (1959), no. 99. The agricultural dominance of the economy is reflected in the two Han terms for the Treasury, *Ssu Nung* and later *Ta Nung*, "The Ministry of Agriculture" and "The Great [Department of] Agriculture". A corollary of this is that the many walled towns scattered over the Chinese lowlands were primarily bureaucratic and cultural centres rather than foci of industry and commerce, see the general study of *hsien* capitals by SEN-DOU CHANG, Some Aspects of the Urban Geography of the Chinese Hsien Capital, AAAG 51.1 (1961), 33, 39—43; for the increased commercial importance of Chinese towns in the T'ang perod see E. BALAZS, Les Villes Chinoises. Histoire des institutions administratives et judicaires, RSJB 6 (1954), 230—231 = IDEM, Chinese Towns, in: Chinese Civilization and Bureaucracy, 70—71.

[603] See Ts'ui Jung's memorial of A.D. 703 on taxation at customs barriers and markets, wherein he argues that such taxes have not been levied in the past because such imposts would have been impossible to collect and would have led to violent opposition from the merchants. The real purpose of such barriers traditionally was not, he notes, to collect customs duties and tolls but rather to control the movements of the population. See D. C. TWITCHETT, A Confucian's View of the Taxation of Commerce: Ts'ui Jung's Memorial of 703, BSOAS 36 (1973), 436—443. For tariffs in the Sung period see E. BALAZS, Une carte des centres commerciaux de la Chine, Annales (ESC) 12 (1957), 588—589. For the

customs duties in the southeastern ports of China in the Sung period see J. KUWABARA, P'u Shou-kêng, MTB 7 (1935), 36—37, 46—49. For the period of Mongol rule the tariffs on imported goods ranged between 10 and 40%, see E. BALAZS, Marco Polo in the Capital of China, in: Chinese Civilization and Bureaucracy, 84.

[604] These laws are collected in A. F. P. HULSEWÉ, Remnants of Han Law I, e. g. p. 46 (HS 24B.15b), ordinance 21 concerning strung cash (accumulated capital): this laid down the rules for capital taxation and was particularly directed against rich merchants. Kung Yü in a memorial submitted to the emperor in c. 44 B.C. notes that persons who were regularly excluded from office included traders, bonded servants and officials found guilty of financial malpractice, HS 72.14a; A. P. F. HULSEWÉ, op. cit., 136; HS 5.3b, cf. HFHD I.311—312. This restriction goes back at least to the period 206—195 B.C., HHS 18A.3a. The importance of such regulations is stressed by D. TWITCHETT, Merchant, Trade and Government in Late T'ang, AM n. s. 14 (1968), 65—69, who notes that the merchant's status was that of the ordinary peasant. In 130 B.C. a tax was levied on small animal carts (the basic mode of transportation of traders) and strings of cash, HS 24b.12a; cf. N. L. SWANN, Food and Money, 279—280; also HS 6.7b; cf. HFHD 2.42. See also LIEN-SHENG YANG, Government Control of Urban Merchants in Traditional China, THJCS n. s. 8 (1970), 187—188, who cautions against an overly rigid adherence to this traditional interpretation.

[605] A notable example of a successful merchant in the Han bureaucracy is Sang Hung-yang, the son of a Lo-yang merchant who became an important economic advisor of Wu-ti; see his biography translated by S. C. CH'EN, Sang Hung-yang (143—80 B.C.): Economist of the Early Han, JRASNCB 67 (1963), 160—170; HS 24B.12a, cf. N. L. SWANN, Food and Money, 278 who also mentions the prominence of salt and iron merchants among the officers appointed to administer the salt and iron monopolies; cf. particularly Tung-kuo Hsien-yang, the great salt merchant, and K'ung Chin, the rich ironmonger from Nan-yang; HS 24B.11a (117—115 B.C).

[606] See D. C. TWITCHETT, AM n. s. 14 (1968), 65—69; cf. the comment in HS 24B.14b (N. L. SWANN, Food and Money, 295—296) on the effectiveness of these laws under Wu-ti that inspectors and judges travelled throughout the provinces and fiefs to render judgement against those accused under the anti-capital accumulation law: "As a consequence, travelling traders and resident merchants, whose fortunes placed them among the well-to-do and above, were for the most part practically ruined."

[607] D. C. TWITCHETT, AM n. s. 14 (1968), 65—67.

[608] On the creation of the salt and iron monopolies under Wu-ti see HS 24B.12a, cf. N. L. SWANN, Food and Money, 278. The two opposing points of view in regard to the salt and iron monopoly are put forward in a debate between the Literati and the government ministers in the 'Yen T'ieh Lun'. See E. M. GALE, Discourses on Salt and Iron: A Debate on State Control of Commerce and Industry in Ancient China, Sinica Leidensia 2 (Leiden 1931). See especially YTL I.d and XII.b, where it is noted that financial need occasioned by defence measures against the Hsiung-nu compelled Wu-ti to establish the salt and iron monopolies, a liquor excise and the equitable marketing system; YTL I.n, where the Literati make the interesting observation that government monopolies have simply replaced one group of small crooks (the merchants) with a group of more powerful crooks (the bureaucrats). See further, E. M. GALE, P. A. BOODBERG and T. C. LIU, Discourses on Salt and Iron (Yen Tieh Lun Chaps. XX—XXVIII), JRASNCB 65 (1934), 73—110, and also CHUN-MING CHANG, The Genesis and Meaning of Huan Kuan's 'Discourses on Salt and Iron', CSPSR 18 (1934), 1—52. The administration of these Han monopolies was in the hands of the Grand Minister of Agriculture, see YÜ-CH'UAN WANG, HJAS 12 (1949), 155—156. For the T'ang period monopoly see K. HINO, Government Monopoly on Salt in T'ang in the Period before the Enforcement of the Liang Shui Fa, MTB 22 (1963), 1—55. When overseas commerce began to become increasingly important in the Sung period, the imperial government again reacted by monopolizing the commerce in the most important products for itself, see J. KUWABARA, P'u Shou-kêng, MTB 7 (1935), 50—52;

2 (1928), 41—42 and E. Balazs, in: Chinese Civilization and Bureaucracy, 63—64. The government also impeded commerce by placing merchants' associations under the obligation of supplying government needs upon demand, see on this S. Kato, On the Hang or the Associations of Merchants in China, MTB 8 (1936), 62—66. A total ban on foreign commerce did not become part of imperial policy until the Ming period, see B. Wiethoff, The Ming Policy of Maritime Prohibition, Cina 8 (1964), 59—60.

[609] See D. C. Twitchett, AM n. s. 14 (1968), 69—95; Idem, BSOAS 36 (1973), 433—436; E. Balazs, Les foires en Chine, RSJB 5 (1953), 84 = Idem, Fairs in China, in: Chinese Civilization and Bureaucracy, 61.
The Sung period brought a further increase in the importance of commerce in Chinese society to the extent that it began to have a significant effect on agriculture, see Shiba Yoshinobu, Commercialization of Farm Products in the Sung Period, Acta Asiatica 19 (1970), 78—79. The increased development of a money economy at this time, particularly in the south, also led to some changes in bureaucratic attitudes and skills, see J. T. C. Liu, Reform in Sung China. Wang An-shih (1021—1086) and his New Policies, Harvard East Asian Series 3 (Cambridge/Mass. 1959), 39—40 and R. M. Hartwell, Financial Expertise, Examinations and the Formulation of Economic Policy in Northern Sung China, JAS 30.2 (1971), 281—283, 292—295.

[610] For the late establishment of credit institutions in China see Lien-sheng Yang, Buddhist Monasteries and Four Money-Raising Institutions in Chinese History, HJAS 13 (1950), 174—191, who notes that the evidence for the existence of money-raising institutions does not go further back than the fifth century. See also Wang Gung-Wu, in: N. Mollat (ed.), Sociétés, 219. For government hindrance of private credit innovations see E. Balazs, in: Chinese Civilization and Bureaucracy, 42—43.

[611] SC 129.7a; cf. N. L. Swann, Food and Money, 438; YTL II.c; III.d; cf. E. M. Gale, Discourses, 14—15.

[612] One of the silks found by Stein on the T'un-huang *limes* bears a Chinese inscription indicating that it was from the kingdom of Jen-ch'eng (post A.D. 84); see A. Stein, TP 2 ser. 20 (1921) 131—132 = Chavannes, Documents chinois, no. 539. For the tributary system see above pp. 617—618.

[613] H. Bielenstein, The Census of China During the Period 2—742 A.D., BMFEA 19 (1947), 135—145. For the migration after A.D. 311 of most of the Chinese upper class to the region south of the Yangtze river see Lien-sheng Yang, HJAS 9 (1946), 115. On the unreliability of such early figures see J. D. Durand, The Population Statistics of China, A.D. 2—1953, PS 13.3 (1960), 210—222.

[614] For the importance of T'un-huang as the centre of Chinese control on the Northwest frontier see above pp. 642—643. Few documents mention commercial transactions conducted in that city; cf. Chavannes, Documents chinois, no. 914 (Chin period), a very fragmentary Chinese document which mentions the sum of 20,000 cash in regard to some sort of commercial transaction at T'un-huang.

[615] W. Eberhard, The Leading Families of Ancient Tun-huang, Sinologica 4.4 (1965), 212—230.

[616] W. Eberhard, Sinologica 4.4 (1956), 224—225, but this upward mobility did not include the soldiers of the Chinese garrison stationed there, see W. Eberhard, The Origin of the Commoners in Ancient Tun-hang, Sinologica 4.3 (1955), 142—143.

[617] See A. F. P. Hulsewé, TP 2 ser. 45 (1957), 29; M. Loewe, Records, 1.107. See for example Chavannes, Documents chinois, nos. 67, record of a soldier passing through the barrier; 219, someone going out, only the month is given; and 553, an unnamed person whose accoutrements and weapons conform to regulations; Loewe, Records, 2. no. MD. 13 is a register of travellers who are allowed passage through a point of control; ibid. 2. no. UD. 5

(first century B.C.) is the same and ibid. 2. no. TD. 8.1—3 is a register of civilian traffic at a barrier. CHAVANNES, Documents chinois, no. 149 instructs that a register be kept of all men, animals, vehicles, weapons, manufactured items and other articles which were carried in or out of the barrier; Chü-yen Han-chien (1949), no. 487 is the identity tag from such a register: "Register of outgoing and incoming officials and civilians for the sixth month of the first year of Yang-shou" (24 B.C.), cf. M. LOEWE, Records, 1. 109.

[618] On passports (*chuan*) and credentials (*fu*) see A. F. P. HULSEWÉ, Han-time Documents, TP 2 ser. 45 (1957), 24—25; M. LOEWE, Records, 1. 107—113. For a study of the contents of the Han documents found at Ulan-Darbeljin, apparently the site of the Chin Pass, see MORI SHIKAZO, Han-Time Documents from Chü Yen with Particular Reference to those discovered at Ulan Darbeljin, Acta Asiatica 3 (1962), 7—10, 13. The slips which also included the dates of exit and entry mention cavalrymen, infantry, conscript labourers and agricultural colonists; cf. M. LOEWE, Some Notes on Han-Time Documents, TP 2 ser. 50 (1963), 159—160, 170. Cf. also on passports M. LOEWE, Records of Han Administration: Supplementary Notes, TP 2 ser. 56 (1970), 227.
See CHAVANNES, Documents chinois, no. 150: "I write and send this letter to the indigenous official named Pin-pien; it is necessary for the domestic animals, carts and arms which enter and go out of the pass to conform with the official letter"; cf. ibid., no. 553. Chü-yen Han-chien (1949), no. 27 (12 B.C.) is an authorization for the issuance of a passport: "Ts'ui Tzu-tang of I-cheng states that he is engaged in domestic and private marketing at Chü-yen. I beg to state that Tzu-tang has not been subject to official summons for judicial reasons, and is qualified to receive a passport." "The document is submitted to Chang *se-fu* of the northern division", cf. LOEWE, Records, 1. 110. For important travellers arrangements were made in advance, see Chü-yen Han-chien (1949), no. 168 (11 B.C.), cf. LOEWE, Records, 1.111.

[619] Soldiers: CHAVANNES, Documents chinois, nos. 311 and 541; LOEWE, Records, 2. no. MD. 13; MASPERO, Documents chinois, nos. 50, 51, 66, 67, 68, 71, 119; Officers: MASPERO, Documents chinois, nos. 45, 92, 129, 191; Buddhist and Taoist priests: CONRADY, Handschriften, I.28.2, 29.4; Administrators: CHAVANNES, Documents chinois, nos. 49, 51, 138, 139, 143, 144, 145, 367 (A.D. 9), 375, 552; MASPERO, Documents chinois, no. 214; Settlers: CHAVANNES, Documents chinois, nos. 169; CONRADY, Handschriften, no. I.5.1; Envoys: CHAVANNES, Documents chinois, nos. 310, 311, 312(?); Pedlars: Chü-yen Han-chien (1949), no. 27; LOEWE, Records, 2. no. TD.8. 1,2,3(?). Many of the commercial transactions mentioned in the documents from the *limes* involve sales of individual items of daily use (e. g. clothing) by members of the *limes* garrison; CHAVANNES, Documents chinois, nos. 42, 43, and LOEWE, Records, 2. no. MD. 1.26 which is a register of the hire and sale of clothes and other goods; cf. CHAVANNES, Documents chinois, no. 914 of the Chin period which refers to some sort of commercial transaction at T'un-huang involving 20,000 cash; Chü-yen Han-chien (1949), nos. 169 (31 B.C.), 380, 388; cf. LOEWE, Records 1. 116, and: Chü-yen Han chien (1949), no. 292, a fragmentary document which mentions 5,300 cash involved in a purchase of horses.

[620] It appears from the documentary and literary evidence that the Chinese preferred to use carts rather than camels. CHAVANNES, Documents chinois, no. 169, a cartload of millet; CONRADY, Handschriften, no. 1. 10.r, camels going up to the mountains; LOEWE, Records 2. no. UD. 5 lists a horse-drawn cart, a light vehicle and an ox-cart among the conveyances which have passed a barrier (first century B.C.); ibid., 2. no. TD. 6.4—5 mention a total of $11^1/_2$ wagon loads of grain; ibid., 2. no. TD. 8.1, record of one light vehicle and one horse admitted 'in' past a barrier; ibid., 2. no. TD.8.2, record of one light vehicle and one horse going 'out' to the north; ibid., 2. no. TD.8.3, another light vehicle and one horse going 'out'; MASPERO, Documents chinois, no. 215 (Chin period) mentions a camel for official use. Wheeled vehicles also figure prominently in various registries of property owned by the local settlers: Chü-yen Han-chien (1949), no. 455: two ox-drawn carts, five horses and two light horse-drawn vehicles. Such vehicles probably had a greater carrying capacity

than comparable transport in the West since the Han Chinese had a more efficient equine harness. For use of the breast-strap harness see J. NEEDHAM, Efficient Equine Harness; the Chinese Inventions, Physis 2 (1960), 127—133, who notes that loads of three tons were not exceptional. On use of camels in Central Asia see T.-P. ROUX, Le chameau en Asie Centrale, CAJ 5 (1959/60), 35—73; E. H. SCHAFER, Sinologica 2.3 (1950), 176—177. In the nineteenth century the horse or mule-drawn cart was still the most common means of transport in Kansu, Mongolia and Kashgar; see COL. M. S. BELL, The Great Central Asian Trade Route from Peking to Kashgaria, PRGS 21 (1877), 63—64. Invaluable documentary evidence from the same period provides our best attestation for the relative merits of the use of carts and camels for transport in Central Asia. This comes from Memorials XLVI. 19—25 and is a report by the Chinese commander Tso Tsung-t'ang, who had been charged with putting down a Moslem rebellion in the Northwest. The traditional form of conveyance used by the army in the south was the donkey-drawn cart and Tso needed strong arguments for the use of camels. He notes that even when moving under pressure, a cart travelling from Su-chou to Hami would require 24 days and 30 to Barköl. Such a cart carries a maximum of 600 catties of grain. On a journey of 30 days the two donkeys pulling the cart consume 500+ catties and driver another 60+ catties. A camel, on the other hand, needs grain only on the rare occasions when it was really tired, the rest of the time it could be pastured and one man could handle five camels. See WENDJANG CHU, The Moslem Rebellion in Northwest China 1862—1878: A Study of Government Minority Policy (The Hague/Paris 1966), 187—188.
One of the seventh century documents from Kucha (Pelliot Collection), in the so-called Tocharian B language, records the passage past a toll station of a party of ten men and five horses, see S. LEVI, Le 'Tokharien B', langue de Koutcha, JA 182 (1939), 312—313. A paper manuscript in Turkish Runic script from shortly before the mid-eighth century found at Miran contains a register of persons who were passing the fort at Miran and of the passports issued to them. Turkish MS 1a suggests a fairly brisk traffic at this point on the 'Southern Route' since it contains a considerable list of names for only a single day; see W. THOMSEN, Dr. M. A. Stein's Manuscripts in Turkish 'Runic' Script from Miran and Tun-huang, JRAS (1912), 182—189. The most interesting document from the eighth century is a Tibetan wooden slip which bears the account of large caravan carrying barley, silk, silver, gold, oil, felt and flowers: "Barley, loads seventy-five; and silk, rolls one thousand; silver, ounces nine hundred; gold, ounces six hundred; oil . . ." The remainder of the fragmentary text mentions other products and personnel of the caravan, including a caravan-leader (*rad-mkhan*), a guide and a quartermaster, see F. W. THOMAS, Tibetan Literary Texts and Documents Concerning Chinese Turkestan, 2. Documents (London 1951) (cited as THOMAS, Tibetan Documents), pp. 369—371 no. 50. For other references to official and commercial traffic see THOMAS, Tibetan Documents, nos. 49, 54, 56 and 57. The preference of merchants' caravans for the I-wu rather than the T'un-huang road is mentioned in Chou-shu 50.12b, cf. R. A. MILLER, Accounts of Western Nations in the History of the Northern Chou Dynasty (Berkeley 1959), 8. On the basis of the published literary and documentary material traffic in the Tarim Basin appears to have been heavier in the T'ang period than under the Han dynasty.

[621] The kingdom of Lou-lan in the Kharoṣṭhī texts is called Kroraimna, see B. KARLGREN, Word Families in Chinese, BMFEA 5 (1933), 57, and E. G. PULLEYBLANK, The Consonantal System of Old Chinese, AM n. s. 9 (1962), 122.

[622] The major publications of the Kharoṣṭhī documents are A. M. BOYER, E. J. RAPSON and E. SENART, Kharoṣṭhī Inscriptions Discovered by Sir Aurel Stein in Chinese Turkestan, 3 pts. (Oxford 1920), and a supplementary publication in: T. BURROW, Further Kharoṣṭhī Documents from Niya, BSOAS 9.1 (1937), 111—123. For translations of these see T. BURROW, A Translation of the Kharoṣṭhī Documents from Chinese Turkestan (London 1940). Most of the documents were excavated from what STEIN termed the "Niya River site" (ancient Caḍota), an area of ancient ruins in the desert 65 miles north of Niya (ancient Nina). See STEIN's excavation reports cited above p. 739, n. 384 and H. LÜDERS, Zu und aus den Kharoṣṭhī-Urkunden, AcOr 18 (1939—40), 35—36.

[623] See in general R. C. Agrawala, Land and Agriculture as Depicted in the Kharoṣṭhī Documents from Chinese Turkestan, PIHC 20 (1952), 102—107. — Camels: Kh. Inscr. nos. 4, an order to send 10 camels to Calmadana; 6, mentions the debt of a camel; 21; 23; 40, mentions rules for the care of the royal camels; 52; 55, regulations for the care of royal camels; 70; 74; 77; 82; 83; 106; 109; 132; 152; 163; 166; 180, list of royal camels (cf. above p. 743, n. 408); 188; 198; 226; 228; 244; 291; 306; 314; 329; 330; 339; 341; 356; 383; 387; 392; 435; 437; 468; 475; 546; 570; 709; and 715.—Cattle: Kh. Inscr. nos 7, dispute over two cows and a calf; 56; 122; 134; 153; 159; 186; 315; and 327. — Horses: Kh. Inscr. no. 13, refers to a ban on hunting since hunters had injured pasturing horses; 24; 62; 83; 84; 119; 153; 156; 213; 226; 243; 331; 333; 421; 431/2; 572; 573; and 580. — Sheep: Kh. Inscr. nos. 56; 131; 162; 243; 519; 568; 576; and 584. — Irrigation: Kh. Inscr. nos. 72, a register of irrigation for several wheat fields; 83, orders for ploughing, 125; 160, mentions the price of water; 367, orders for irrigation; 604, refers to a dispute over water being cut off. — Vineyards: mentioned in Kh. Inscr. nos. 90; 187; 419, a contract drawn up at Caḍota for the purchase of a vineyard; 473, refers to a mortgage on a vineyard; 581, purchase of a vineyard; and 586 the same.

[624] In general see R. C. Agrawala, Form of Taxation as depicted in the Karoṣṭhī Documents from Chinese Turkestan, IHQ 29 (1953), 340—353. Kh. Inscr. nos. 16, notes that a change in past practice had been made and camels over thirteen years of age could be accepted as tax payments; 42, specifications for tax-camels; 59, mentions the tax of corn; 165, refers to a tax camel; 168, a list of tax payments in arrears includes wine; 206, a tax paid in wine; 207, list of taxes in arrears includes pomegranates, one cow, six sacks, pieces of cloth, rugs; 295, a jar of pomegranates paid as a tax; 382, two felt garments are paid as tax. For the tax terms *palpi* and *harga* see T. Burrow, Iranian Words in the Kharoṣṭhī Documents — II, BSOS 7.4 (1935), 788. Cf. H. Lüders, Zur Schrift und Sprache der Karoṣṭhī-Dokumente, BSOS 8.2/3 (1936), 642—647.

[625] E. g. Kh. Inscr. nos. 8, mentions a royal order granting corn for subsistence to the local magistrates; 27, wages to guards are paid in corn.

[626] Kh. Inscr. nos. 1, refers to a complaint that soldiers of Saca carried off two cows; 33, complains that tax-collectors are taking advantage of the 'troubled times'; 71, frontier guards return a stolen camel; 195, provision is made in case an armed band carries off a camel; 272, a letter from the king of Kroraina to the *cozbo* Soṃjaka states: "Also it appears that since last year you have been in great danger from the Supis and you have settled the people of the province inside the city . . . These well-to-do people are to be prevented from persecuting the debtor people. When there is peace and quiet from Khotan and the kingdom is stable, at that time they will pay," cf. T. Burrow, Translation, no. 272; cf. also 357; but in no. 494 a different principle is laid down in regard to the recovery of a debt of gold: "The established law here is that what has been given or received before the plundering of the kingdom by the Khotanese cannot be the object of a legal dispute." Cf. T. Burrow, op. cit., no. 494; 292, contains instructions for good treatment to those people from Caḍota who had been carried off by raiders but had managed to return; that the loyalties of some of the nobles of Kroraina were also suspect is suggested by no. 362, where the king orders that the family of the envoy sent to Khotan is to be held under guard at Caḍota to assure his return; 386, refers to strife between the people of Caḍota and the people of the mountains.
A number of letters and reports deal with border troubles with the Khotanese and with the threat of an attack by the Supis (*supiye*). For problems with the Khotanese see Kh. Inscr. nos. 86; 272, notes that the danger from Khotan is over; 376, mentions a Khotanese cavalry attack on the town of Remena; 415, mentions that the Khotanese plundered Caḍota; cf. 516; see also 123, which refers to the need to keep watch on an army at Saca (*sacade*) which may be Khotanese at this time, since that town (now Endere) was near the Khotanese frontier; cf. H. Lüders, AcOr 18 (1939—40), 36—37. For the threat of a Supi attack see Kh. Inscr. nos. 86; 88; 109; 119: "It is heard here now that the Supis are coming down on the people of Calmadana in the fourth month. You will send a frontier-guard

riding on a horse here," cf. T. Burrow, Translation no. 119; 126; 133; 134; 183, refers to the time when the Supis came to Caḍota; 212; 272; 324, mentions a raid by the Supis on the town of Calmadana: "... they plundered the kingdom and carried off the inhabitants." Cf. T. Burrow, op. cit., no. 324; 351, reports that many Supis have come to the town of Navate; 491, Supis carry off a slave; 515, mentions the reinforcement of the frontier guard against the Supis; other measures against the Supis are mentioned in nos. 541 and 578; cf. 675 and 722.

[627] In Kh. Inscr. nos. 3, the price paid for a female slave is set at 41 rolls of silk (*paṭa*); 149, lists a number of stolen items, including three Chinese silk robes (*ciṃna cimara*); 225, mentions the receipt of a total of 5 rolls of silk; 318, a list of stolen property recovered from a slave includes a jacket of white silk; 345, mentions the theft of 12 rolls of silk (*paṭa*) by the slave of a monk and the payment of a fine of 30 rolls of silk to the royal treasury; 348, the penalty for the breaking of a contract is set at 5 rolls of silk (*paṭa*); 353, mentions a gift of a silk turban (*cinaveda*); 419, sets a fine of 5 rolls of silk (*paṭa*) for a breach of contract; 489, is a list of the regulations of a community of monks at Caḍota which includes provisions for fines in silk: "Whichever monk does not partake in the activities of the community of monks shall pay a fine of one roll of silk. Whichever monk does not take part in the *posatha* ceremony, his penalty is (a fine of) one roll of silk. Whichever monk at the invitations to the *posatha* ceremony enters in a householder's dress, shall pay a fine of one roll of silk. Whichever monk strikes another monk (in case of) a light (blow, the fine is) 5 rolls of silk, (in case of) a moderate (blow) 10 rolls of silk, (in case of) an excessive (blow) 15 rolls of silk," cf. T. Burrow, Translation, no. 489; 566, reports the theft of a silk garment; and 660, lists rolls of silk paid out to various individuals to a total of 14 rolls. See also Chinese documents below n. 629. For the meaning of *paṭa/paṭṭa* see H. Lüders, Textilien im alten Turkestan, APAW (1936), no. 3, 24—28, who argues that the term in the Kharoṣṭhī documents always means silk (see pp. 29—30 for other terms for silk used in the documents); cf. F. W. Thomas, Some Notes on Central-Asian Kharoṣṭhī Documents, BSOAS 11.3 (1945), 546—549 with doubts about this. See also R. C. Agrawala, A Study of Textiles and Garments as Depicted in the Kharoṣṭhī Documents from Chinese Turkestan, Bhāratīya Vidyā 14 (1953), 76—78, 92—93.

[628] Several Kharoṣṭhī and Chinese documents are important here. Kh. Inscr. no. 35: "Sugita is to be prevented. At present there are no merchants from China, so that the debt of silk is not to be investigated now. As regards the matter of the camel Taṃcina is to be pestered. When the merchants arrive from China, the debt of silk is to be investigated. If there is a dispute, there will be a decision in our presence in the royal court." Cf. T. Burrow, Translation, no. 35; also Conrady, Handschriften, nos. I.6; I.13.2; II.46; II.103, and Maspero, Documents chinois, no. 239. A Chinese settler is also mentioned in a document dealing with a dispute over land, Kh. Inscr. no. 255; in no. 324 it is reported that the Supis had carried off a Chinese man from Calmadana; in n. 403 a Chinese woman is reported to have come from Khotan, and in no. 686 A/B mention is made of Chinese in the local towns of Opiṃta, Calmadana and Niya(?).

[629] In a refuse heap on the T'un-huang *limes* Stein found a piece of silk bearing a Brāhmī inscription indicating the length of the roll concerned: A. Stein, TP 2 ser. 20 (1921), 133—136, but it is not necessary to see this as evidence of transcontinental trade. The ultimate destination of this roll may only have been intended to be Lou-lan or Khotan. See on this inscription H. Lüders, APAW (1936), no. 3, 36—37, who emends Boyer's reading of the text; T. Burrows, Language, 102; cf. F. W. Thomas, BSOAS 11.2 (1945), 546—547. A similar piece of silk with a Kharoṣṭhī inscription was found by the Sino-Swedish expedition, see S. Konow, Note on the Inscription on the silk strip no. 34: 65, in: F. Bergman, Archaeological Researches, 231—234; cf. on the reading of the inscription ("Sindhuacarya's roll, 40 *diṣṭi* [long]") F. W. Thomas, BSOAS 11.2 (1945), 548—549.

Conrady, Handschriften, no. I.6 (Chin, from Lou-lan) is a very fragmentary document which mentions debts, an agent and the price of silk; ibid., no. I.13.2 (similar date and provenance), a fragmentary business document which mentions small amounts of various types of silk which are to be bought; ibid., no. II.46 refers to the import of 319 *pi* of silk and the purchase(?) of 4326(?) *pi* of coloured silk for the local inhabitants; ibid., no. II.103, a list mentioning small amounts of different types of silk; MASPERO, Documents chinois, no. 239 (Chin, from Lou-lan), a fragmentary account listing sales of small quantities of silk, the largest amount is 15 *pi*. Also of interest is another lengthy business letter which makes an oblique reference to the fluctuating price of gold, Kh. Inscr., no. 140: "Also there they are looking for gold. The gold [. . . . .]. I have sent Tolayana of The Mountain there. By you, Lyimsa, attention is to be paid to this matter and according to how much the price of gold is there, this is to be sold"; cf. T. BURROW, Translation, no. 140.

[630] See R. C. AGRAWALA, Deputation of Ambassadors as depicted in the Kharoṣṭhī Documents from Chinese Turkestan, JGIS 15 (1956), 133—137. Kh. Inscr. nos. 22, mentions an envoy, Lyimsa, on the way to Khotan with two camels; 109, mentions letter carriers and their camels; 135, orders that provisions and express camels be furnished for two envoys heading for Khotan; 214, refers to an envoy leading a horse as a present to the kingdom of Khotan; 248; 251; 362; also 64, which deals with regulations for the use of express camels used by such envoys (while the native authorities regularly used camels, the Chinese appear to have preferred horses; cf. MASPERO, Documents Chinois, nos. 295, 296, 297, T'ang documents from Turfan, which list the horses in use by the postal service; cf. no. 298, a list of horses which had died, and nos. 301—302, registers of inquests into horse-deaths); cf. no. 223, mentions the use of an express horse on a mission to Khotan.
For the meaning of *piro* as 'bridge' and *aviṃdama* as the payment made on crossing a bridge, see T. BURROW, BSOS 7.4 (1934), 784—785; IDEM, Language, 105—106; cf. F. W. THOMAS, BSOAS 11.2 (1945), 536—539, who suggests the meaning 'well'. For remains of a bridge at the Niya River site see M. A. STEIN, Serindia, 240. Caḍota (STEIN's "Niya River site") appears to be the last town of the kingdom of Kroraina in the direction of Khotan (so Kh. Inscr. nos. 272, 283, 333, 471, 578). Kh. Inscr. no. 14 implies that the road from Kroraina to Khotan ran via Calmadana, Saca (Endere) and Nina (Niya), the latter possibly already in Khotanese territory; cf. H. LÜDERS, AcOr 18 (1939—40), 35—36. But no. 123 mentions an apparently hostile army at Saca which at the time of no. 14 was part of the kingdom of Kroraina; cf. no. 214, in which an embassy to Khotan goes from Saca to Caḍota. A Chinese document of the same period (third century?) from Lou-lan seems to refer to some sort of customs payment on cloth (CONRADY, Handschriften, no. II.23). Since such tolls are not likely to be Chinese (see above n. 603), a local duty is involved.

[631] For this route see above p. 746, n. 435.

[632] For major irrigation works in ancient Sogdiana see A. I. TERENOZHKIN, Arkheologicheskaia rekognostsirovka v zapadnoi chasti Uzbekistana, VDI (1947), 2.185—186, who dates the construction of the Iski-Angar canal back before the advent of the present era; cf. S. K. KABANOV, Arkheologicheskie nabliudeniia na stroitel'stve Iski-Angarskogo kanala, IMKUz 1 (1959), 172—173, who rejects this date and argues that the canal was not in use in the Kuṣāṇa period. But cf. A. I. TERENOZHKIN, Voprosy istoriko-arkheologicheskoi periodizatsii drevnego Samarkanda, VDI (1947), 4.131, who argues for a period of economic decline at Samarkand through the Kuṣāṇa period and as late as the sixth century. Rejected by M. E. MASSON, K periodizatsii drevnei istorii Samarkanda, VDI (1950), 4.158—160, who stresses that the city reached its greatest economic prosperity in the first three centuries of our era.

[633] Modelled on the coins of Euthydemus. See N. N. ZABELINA, Novaia moneta s legendoi ΒΑΣΙΛΕΩΣ ΕΥΘΥΔΗΜΟΥ, KSIIMK 28 (1949), 101—102; V. M. MASSON, Denezhnoe khoziaistvo drevnei Srednei Azii po numizmaticheskim dannym, VDI (1955), 2. 42—43. The attribution of the Euthydemus imitations to Sogdiana is, however, an assumption based on the provenience of these coins. See A. DE LA FUŸE, Monnaies incertaines de la Sogdiane et des contrées voisines, RN 4 ser. 14 (1910), 329—333; R. N. FRYE, Notes on the Early Coinage of Transoxiana, NNM 113 (1949), 5—6; W. W. TARN,

GBI², 303—304. For finds of these imitations see B. KASTAL'SKII, Neizdannaia greko-baktriiskaia tetradrakhma-medal' Antimakha I, bitaia v chest' Evtidema I, VDI (1940), 3—4. 347, finds near Bukhara and Samarkand; E. A. DAVIDOVICH, Neopublikovannye monetnye nakhodi na territorii Uzbekistana, TIIAANUzSSR 7 (1955), 169, at Varakhsha, Bukhara oasis; cf. a similar imitation from Tudai-Kalon in Ferghana, S. K. KABANOV, Ruiny poseleniia III—V vv v doline Kashkadari, IMKUz 6 (1965), 84—85. For coins with Sogdian legends see V. A. LIVSHITS and V. G. LUKONIV, Srednepersidskie i sogdiiskie nadpisi na serebrianykh sosudakh, VDI (1964), 3.169.

[634] So V. M. MASSON, VDI (1955), 2.43.

[635] First published by H. REICHELT, Die Soghdischen Handschriftenreste des Britischen Museums 2 (Heidelberg 1931). A letter, REICHELT, Sog. Handschriften, no. 2, describes a great famine in China, the flight of the Emperor from Lo-yang followed by the burning of the imperial palace, the evacuation of the capital, and the capture of Ch'ang-an by the *Xwn*. Lo-yang was burned in A.D. 190 and 311. The latter date was proposed by HENNING in his study of these letters: W. B. HENNING, The Date of the Sogdian Letters, BSOAS 12 (1948), 608—615; so also O. PRITSAK, Xun: Der Volksname der Hsiung-nu, CAJ 5 (1959/60), 27, 33. Recently HARMATTA has again opened the question of the date of these letters and concluded that c. A.D. 196 is the more likely occasion for the time of the letters; see J. HARMATTA, Eine Neue Quelle zur Geschichte der Seidenstraße, JWG (1971), 2. 135—143. But in the vicinity of T'un-huang Sogdians have left no trace in the abundant documentary evidence from the Han period even at sites where their settlements are later attested, see W. EBERHARD, Sinologica 4.3 (1955), 146, cf. 148—153.

[636] REICHELT, Sog. Handschriften, no. 2 mentions 100 Sogdians from Samarkand in Li-yang (ll.19—20), 42 others in a city whose name is lost (l.20). The writer of the letter lived for a time in T'un-huang (l.23) from where he journeyed on business to Kin-ch'eng (l.23); he sent a subordinate with a caravan from Ku-tsang to Lo-yang (ll.35—37) and another to T'un-huang. He also notes that the Indians and Sogdians resident in Lo-yang were all dead (ll.37—38) and that a subordinate was robbed and killed while on business in Kin-ch'eng (l.40). See text in J. HARMATTA, JWG (1971), 2.138—141.
For four Sogdian colonies founded in the seventh century in the area south of Lop-nor see P. PELLIOT, Le 'Cha tcheou tou fou t'ou king' et la colonie sogdienne de la région du Lob Nor, JA 11 ser. 7 (1916), 115 (based in part on an eighth century Chinese MS from T'un-huang), and FANG-KUEI LI, Notes on Tibetan Sog, CAJ 3 (1957/58), 139—142. The extensive Sogdian settlements in the Ordos from the seventh to tenth centuries are treated in E. G. PULLEYBLANK, A Sogdian Colony in Inner Mongolia, TP 2 ser. 41 (1952), 317—347. A Sogdian colony is also attested for Hami at this time, see E. G. PULLEYBLANK, TP 41 (1952), 349—354. See also the statement in the 'Hsin Tang shu' (eleventh century), 221 B. 1a, that the Sogdians "have gone wherever profit is to be found." Cf. E. G. PULLEYBLANK, TP 2 ser. 41 (1952), 317, and also E. CHAVANNES, Documents sur les Tou-Kiue (Turcs) occidentaux (Paris 1900), 234—235, 289. The Sogdian letter of Nanaivandak republished by HENNING and HARMATTA also mentions in line 37 Indians in Saray (Lo-yang). A Sogdian inscription of the seventh to ninth centuries has been found et Sevrey in the Gobi, see S. G. KLIASHTORNYI and V. A. LIVSHITS, Une inscription inédite turque et sogdienne: la stèle de Sevrey (Gobi Méridional), JA 259 (1971), 11—20.

[637] Found in Tower XI on the T'un-huang *limes*; cf. M. A. STEIN, Serindia, 2.672—676.

[638] The social relationship of the two parties is suggested by the form of address in REICHELT, Sog. Handschriften, no. 2. See text in J. HARMATTA, JWG (1971), 2.140.

[639] This conclusion may be drawn from the Sogdian letter republished by J. HARMATTA, JWG (1971), 2.138—141 (REICHELT, Sog. Handschriften, no. 2). Cf. the interesting observation of W. EBERHARD, Sinologica 4.3 (1955), 153 that all the families with recognizably Sogdian names living in the T'un-huang area appear not to have been merchants.

[640] J. Kennedy, JRAS (1912), 667, 981—1003; Idem, JRAS (1913), 921; L. D. Barnett, JRAS (1913), 443; Longworth Dames, JRAS (1913), 957—958; J. E. van Lohuizen de Leeuw, The 'Scythian' Period, 365—366; J. I. Miller, Spice Trade, 234—235; E. H. Warmington, Commerce², 298—299; B. N. Mukherjee, Nana on Lion, 48, 79—82.

[641] See above p. 631.

[642] So already A. Cunningham, ASI AnnRep 2 (1871), 68; in greatest detail, J. Kennedy, JRAS (1912), 665—688, 981—1019; Idem, Sidelights on Kanishka, JRAS (1913), 369—378; Idem, Kanishka's Greek, ibid., 121—124; J. F. Fleet, The Traditional Date of Kanishka, JRAS (1906), 979—992; Idem, The Early Use of the Era of B.C. 58, JRAS (1907), 169—172; Idem, The Question of Kanishka, JRAS (1913), 95—107; Idem, JRAS (1913), 914, 968—980, 1006; Longworth Dames, JRAS (1913), 954—955.

[643] The eras by which the inscriptions of Northern India date have long been the subject of heated controversy. The Vikrama and Saka eras were the two major systems of reckoning in use but some scholars have preferred to see a multiplicity of eras to suit their own palaeographic or historical theories. See, for example, S. Konow, The Eras of the Indian Kharoṣṭhī Inscriptions, AcOr 3 (1925), 60—61, who suggests five eras; cf. Idem, Notes on Indo-Scythian Chronology, JIH 12 (1933), 1—46.

[644] F. W. Thomas, The Date of Kaniṣka, JRAS (1913), 649—650; Idem, JRAS (1913), 1011—1042; K. P. Jayaswal, JBORS 16 (1930), 300—301; cf. A. M. Boyer, L'Époque de Kaniṣka, JA 9 ser. 15 (1900), 518—519: late first century.

[645] See J. F. Fleet, JRAS (1913), 987—994. A lengthy discussion of the theories relating to various Indian eras is found in J. E. van Lohuizen de Leeuw, The 'Scythian' Period, 1—65.

[646] This suggestion was made by O. Franke, Beiträge aus chinesischen Quellen zur Kenntnis der Türkvölker und Skythen Zentralasiens, APAW (1904), no. 1.94. So also J. F. Fleet, JRAS (1913), 1006—1011; J. Kennedy, Fresh Light on Kanishka, JRAS (1913), 665—667; Idem, JRAS (1913), 933; Longworth Dames, JRAS (1913), 953—960. Cf. criticisms of E. J. Rapson, JRAS (1913), 912—913; V. Smith, ibid., 939—942, and F. W. Thomas, ibid., 644—645. The case for the priority of the dynasty of Kujula Kadphises was rendered beyond doubt by the excavations of Taxila (cf. already Thomas' report of a lecture by J. Marshall, in: JRAS [1913], 1042, n. 1). The whole issue was again reviewed by B. N. Mukherjee, Studies in Kushāṇa Genealogy and Chronology, I: The Kushāṇa Genealogy (Calcutta 1967), 125—131.

[647] D. R. Sahni, Three Mathurā Inscriptions and their bearing on the Kushana Dynasty, JRAS (1924), 404—405; L. Bachhofer, JAOS 61 (1941), 242; J. E. van Lohuizen de Leeuw, The 'Scythian' Period, 64—65, 381—387; cf. A. L. Basham, A New Study of the Śaka-Kuṣāṇa Period, BSOAS 15 (1953), 86—88; P. H. L. Eggermont, Kaniṣka, die Śaka-Aera und die Kharoṣṭhī-Inschriften, ZDMG 113.3 (1964), 559—564.

[648] Cf. already V. A. Smith, The Kushān, or Indo-Scythian Period of Indian History B.C. 165 to A.D. 230, JRAS (1903), 31 (with a date of c. A.D. 125); W. E. van Wijk, On Dates in the Kaniṣka Era, AcOr 5.2 (1926), 168—170; J. Marshall, Greeks and Śakas in India, JRAS (1947), 3—32; Idem, Taxila I.66—71; A. H. D. Bivar, The Kaniṣka Dating from Surkh Kotal, BSOAS 27 (1963), 498—502. Apparently favoured by A. M. Simonetta, The Indo-Parthian Coinage and its Significance in the Chronology of the Kushans, Proc. Dushanbe, 288; cf. below, n. 1368. The supporters of this date have found confirmation of their views in the recently published trilingual inscription from Dasht-i Navur which mentions Vima Kadphises and a date: the Macedonian month Gorpiaios in the year 279 (DN 1, 4); see the publication and commentary by G. Fussman, Documents épigraphiques Kouchans, BEFEO 61 (1974), 1—50 (cf. below n. 652); cf. A. D. H. Bivar, The Kuṣāṇa Trilingual, BSOAS 39.2 (1976), 333—340 who assigns the date to an era beginning 155 B.C. and hence the new inscription to A.D. 124.

[649] F. R. Allchin, in: Kaniṣka Papers, 31 with c. 130—140. Most recently apparently supported by A. M. Simonetta, La Monetazione Indo-Partica ed il suo significato per la cronologia dei Kushana, RIN 73 (1971), 47. A date close to this, A.D. 132, has been suggested for entirely different reasons by K. Weidemann, Untersuchungen zur Kunst und Chronologie der Parther und Kushan vom 2. Jh. v. Chr. bis zum 3. Jh. n. Chr., JRGZM 18 (1971), 173—178.

[650] R. Ghirshman, Fouilles de Bégram (Afghanistan), JA 234 (1943), 68—71; Idem, Bégram 98—100; Idem, Le Problème de la Chronologie des Kouchans, Cahiers d'Histoire Mondiale 3.3/4 (1957), 693—694, 698—717. So also at one time F. Altheim, Saeculum 1 (1950), 297—298. Renewed support by A. D. Dani, The Date of Kaniṣka, in: Kaniṣka Papers, 64; P. L. Gupta, The Coinage of the Local Kings of Northern India and the Date of Kaniṣka, in: Kaniṣka Papers, 120.

[651] Proceedings published in A. L. Basham (ed.), Papers on the Date of Kaniṣka (Leiden 1968). For the Dushanbe conference see: Proceedings of the International Conference on the History, Archaeology, and Culture of Central Asia in the Kushan Period (title in English and Russian) (Moscow 1974).

[652] S. P. Tolstov, Dated Documents from the Toprak-Kala Palace and the Problem of the 'Śaka Era' and the 'Kaniṣka Era', in: Kaniṣka Papers, 320—326, argued on the basis of his interpretation of the era used in the Choresmian documents found in the royal palace, Toprak-Kala, that A.D. 78 was the first year of the Kaniṣka era. Refuted by W. B. Henning, The Choresmian Documents, AM n. s. 11 (1964/65), 166—170. The fragmentary Toprak-Kala documents published by S. P. Tolstov, Po drevnim del'tam Oksa i Iaksarta (Moscow 1962) are dated to the years 188, 204, 207 and 231 of an unknown era which Tolstov argued began in A.D. 78 (for revised readings of several texts see F. Altheim and R. Stiehl, Die Araber in der Alten Welt, 1.657—660; for the years given above see V. A. Livshitz, cited below). Altheim and Stiehl favoured an era beginning A.D. 305/306 for both the Toprak Kala and Tok Kala inscriptions, ibid. 4.18—19; cf. now V. A. Livshitz, Khorezmiiskii kalendar' i ery drevnego Khorezma, PalSb 21 (1970), 164—165 who proposes that the Choresmian era in which all of the above are dated began between A.D. 20 and 30. Cf. S. P. Tolstov and V. A. Livshitz, Decipherment and Interpretation of the Khwarezmian Inscriptions from Tok Kala, AAntHung 12 (1964), 231—251, who publish a group of ossuary inscriptions from cemeteries which on archaeological grounds are assigned to the eighth century. The texts are dated by an unknown era: no. 52 in year 678; no. 25 in 706; no. 19 in 738; no. 39 in 690 and no. 12 in 694. To make the dates coincide with the chronology suggested by the archaeological context the editors suggest that the Saka Era of A.D. 78 was in use. The A.D. 78 date has a number of other supporters: B. N. Mukherjee, E&W n. s. 21 (1971), 73, and Idem, The Kushāṇa Genealogy, 118—119; P. H. L. Eggermont, The Purāna Source of Merutuṅga's List of Kings and the Arrival of the Śakas in India, in: Kaniṣka Papers, 85; B. N. Mukherjee, Some Observations on the Date of Kaniṣka I, in: Kaniṣka Papers, 204. See also A. H. Dani, Shaikhan Dheri Excavation (1963 and 1964 season), Ancient Pakistan 2 (1965/66), 25—26; Idem, Radio-Carbon Evidence of the Dating of Kanishka, in: Kaniṣka Papers, 436—437, who brings forward one of three radiocarbon readings taken from Kuṣāṇa strata at the site. But the samples yield such variable results with such great margins of error that they are of little value except for casting further doubt on a third-century date of Kaniṣka. Fussman, who recently published a trilingual inscription from Dasht-i Navur (Bactrian, Kharosthi and an undeciphered script and language; DN 1, 3, 4), which mentions Vima Kadphises and the year 279, argued that the unknown era used here and in SK 2 (also year 279) must be the Arsacid era of 247 B.C. Hence both the Dasht-i Navur and Surkh Kotal texts would bear an absolute date of A.D. 32. This would assure A.D. 78 as the first year of Kaniṣka. The impossibility of assigning the date of DN 1 and 4 to the Arsacid era is correctly pointed out by A. D. H. Bivar, BSOAS 39.2 (1976), 334—339 (cf. below n. 723 for the limited use of the Arsacid era even in regions on Parthia's western frontier).

[653] A. K. NARAIN, The Date of Kaniṣka, in: Kaniṣka Papers, 215—326 (c. A.D. 103); J. M. ROSENFIELD, The Mathurā School of Sculpture, in: Kaniṣka Papers, 268—269; D. W. MACDOWELL, Numismatic Evidence for the Date of Kaniṣka, in: Kaniṣka Papers, 148.

[654] Cf. A. L. BASHAM, BSOAS 20 (1957), 87; A. MARICQ, in: E. HONIGMANN and A. MARICQ, Recherches sur les 'Res Gestae Divi Saporis', MémARB, XLVII.4 (Bruxelles 1952), 108—110 (only briefly), and IDEM, The Date of Kaniṣka: Two Contributions in Favour of A.D. 78, in: Kaniṣka Papers, 181—192, the most thorough criticism of GHIRSHMAN'S views. MARICQ makes an important error in his argumentation by assuming that all of the material in the Begram treasure can be accurately dated to the first century. So also M. MITCHNER, A Small Hoard Containing Coins of Arda-Mitra, NC 7 ser. 9 (1969), 303—304, who supports the date with numismatic evidence which is purely speculative; and P. L. GUPTA, Bearing of the Local Coins on the History of Northern India, in: A. K. NARAIN (ed.), Seminar Papers 155—156.
PULLEYBLANK'S study of the 'Hou han-shu' and 'Han-shu' passages which deal with the Kuṣāṇas, however, confirms the correctness of GHIRSHMAN'S view; see E. G. PULLEYBLANK, Chinese Evidence for the Date of Kanishka, Bhārāti 10/11 (1966—1968), 112—122.

[655] At the London Congress of 1913 the possibility of a third century date for Kaniṣka was rejected as "impossibly late"; see remarks of Lt.-Col. WADDELL, JRAS (1913), 946.

[656] F. ALTHEIM and R. STIEHL, Geschichte der Hunnen, 5 (Berlin 1962), 2—15 = IDEM, Zeit und Sprache Kaniṣkas, in: F. ALTHEIM und J. REHORK (eds.), Der Hellenismus in Mittelasien (Darmstadt 1969), 432—446, who dates Kaniṣka to the early third century on the basis of the Kaniṣka inscription from Surkh Kotal. It is argued that the year 31, by which the text dates, is in fact the year 531 in the Seleucid era (with the hundreds omitted) and thus A.D. 219/220. This hypothesis is said to be confirmed by references in the 'Periplus' and by parallels between Kuṣāṇa and Roman coin types. See again F. ALTHEIM and R. STIEHL, Die Araber in der Alten Welt, 4 (Berlin 1967), 44—45; IDEM, Geschichte Mittelasiens, 687—688, 699—703 (the latter is primarily criticism of the chronologies proposed by HUMBACH, ZEIMAL, and GÖBL, which are regarded as too late). The development and changes in GÖBL'S views may be followed in R. GÖBL, Die Münzprägung der Kusan von Vima Kadphises bis Bahram IV, in: F. ALTHEIM and R. STIEHL, Finanzgeschichte der Spätantike (Frankfurt/M. 1957), 236—242; IDEM, Roman Patterns for Kushāṇa Coins, JNSI 22 (1960), 75—60; IDEM, Numismatic Evidence Relating to the Date of Kaniṣka, in: Kaniṣka Papers, 103—110; IDEM, Zwei neue Termini für ein zentrales Datum der Alten Geschichte Mittelasiens, das Jahr 1 des Kusankönigs Kaniṣka, AAWW 101.21 (1964), 137—151; IDEM, Dokumente zur Geschichte der Iranischen Hunnen in Baktrien und Indien, 2 (Wiesbaden 1967), 269—312; the latter two works contain his final conclusions that year 1 of Kaniṣka falls in A.D. 225/230. E. V. ZEIMAL, Problema kushanskoi khronologii i monety, in: Tezisy dokladov na Iubileinoi nauchnoi sessii (Leningrad 1964), 40—46, favours A.D. 278 as year 1 of Kaniṣka; IDEM, A.D. 278: Nachal'naia data Kanishki — 278 d.n.e., in: Proc. Dushanbe, 292—300. The date of A.D. 248/249 for year 1 of Kaniṣka is also favoured by R. C. MAJUMDAR, The Date of Kaniṣka, in: Kaniṣka Papers, 154.

[657] So F. ALTHEIM and R. STIEHL, Geschichte der Hunnen, 5.11—15; IDEM, Der Hellenismus in Mittelasien, 441—446; IDEM, Die Araber in der Alten Welt, 4.494—502; cf. also R. GÜNTHER, Some Remarks on the Chronology of the Kushan Empire, in: Proc. Dushanbe, 289—291.

[658] J. PIRENNE, Le royaume sud-arabe de Qatabân et sa datation (Louvain 1961), 167—193 (after A.D. 106); IDEM, Un problème-clef pour la chronologie de l'Orient: La date du Périple de la Mer Erythrée, JA 249 (1961), 441—459 (c. A.D. 225—230); J. PIRENNE, in: F. ALTHEIM and R. STIEHL, Geschichte der Hunnen, 5.15 in a letter of 10.1.62 adopts a date of 'peu après 208'; IDEM, Le développement de la navigation Egypte-Inde dans l'Antiquité, in: M. MOLLAT (ed.), Sociétés, 107—113 (c. A.D. 225). For ALTHEIM'S support of the date c. A.D. 210 see F. ALTHEIM and R. STIEHL, Geschichte der Hunnen, 5.11—15;

Idem, Die Araber in der Alten Welt, 4.494—502; ibid., 5.1.41—45. The three major arguments Altheim brings forward, a Severan conquest of Southern Arabia, the early phase of Sasanian expansion, and the existence of a king Malichus III in the Northwest of Arabia after A.D. 106 are discussed and rejected below p. 872, n. 912, p. 984, n. 1359 and p. 981, n. 1346.

[659] The fullest discussion of the references to the Kuṣāṇas in HHS 118 is now to be found in E. G. Pulleyblank, Chinese Evidence for the Date of Kaniṣka, in: Kaniṣka Papers, 247—258 and Idem, Bhārāti 10/11 (1966/68), 112—122, who concludes that only Ghirshman's date of A.D. 144 will fit the Chinese evidence in the 'HHS' and 'Wei-chih'. Altheim argues on the basis of Periplus c. 47 (cited below n. 677) that Vima Kadphises did not conquer India until late in his life (after A.D. 210) and that by 215 he had been replaced by Kaniṣka. This ignores the evidence of the Sirkap mound at Taxila, which yielded 2518 copper coins of Kujula Kadphises and only 37 of Vima Kadphises; cf. J. Marshall, Taxila, I.149—150; 2.785—786. The implication of these statistics is that already in the reign of Kujula Kadphises Taxila at least had fallen into the hands of the Kuṣāṇas. See further below n. 1371.

[660] R. Göbl, in: F. Altheim and R. Stiehl, Finanzgeschichte der Spätantike, 237—238, his earliest cursory remarks. The problem is investigated in detail in Idem, JNSI 22 (1960), 75—95, where he suggests on the basis of the comparison of coin types that Vima Kadphises imitates Trajan, Kaniṣka Hadrian, and Huviṣka Antoninus Pius. The theory undergoes further developments in R. Göbl, Kaniṣka Papers, 103—112, and Idem, Le Relazioni numismatiche tra Roma e l'impero dei Kushana, Congresso Internazionale di Numismatica, Roma 11—16 Sett., 1961 (Rome 1965), 2.509—514; and Idem, Dokumente, 2.273—275, where he concludes that the equations are as follows: Vima Kadphises = Trajan/Hadrian, Kaniṣka = Hadrian/Antoninus Pius, Huviṣka = Antoninus Pius/Marcus Aurelius, and Vasudeva I = Marcus Aurelius/early Severans. Göbl notes that in each case the respective Kuṣāṇa imitations may be much later than the Roman prototype. The system is at least in part approved by D. W. MacDowall, in: Proc. Dushanbe, 256—257.

[661] PMC I. pl. XX.iii; BMC Greek and Scythic Kings, pl. XXXII.13.

[662] BMCRE III. pl. 47.7. Göbl makes too little of the differences between the two types. The Roman *aureus* has a quadriga, the currus is narrow and high, the emperor himself is driving; on the alleged Kuṣāṇa imitation the king stands in a biga with a very small driver ahead of him. As Göbl himself admits, the Roman quadriga type is common in the Julio-Claudian and Flavian periods, but earlier prototypes are rejected. A further point requires correction: Göbl notes that the quadriga types of Tiberius "were very copious in India." (JNSI 20 [1960], 81). The Pudukota hoard of 1898 contained two such *aurei* of Tiberius (one now in the British Museum; cf. BMCRE, I. no. 6); the Kottayam hoard of 1848/49 contained one *aureus*, the Akkenpalli hoard of 1959 a single *denarius*, and the Pakli find of 1888 contained another *denarius*. This makes a total of five coins out of the more than 1700 Tiberian issues found in India. Only the Pakli find comes from an area which was ever part of the Kuṣāṇa empire (for literature on these hoards see below pp. 990—995).

[663] So R. Göbl, JNSI 22 (1960), 81—82.

[664] PMC I.XV.i: there at least we have a biga, a currus with the same low elongated shape and a king preceded by a driver. The date of Maues is not securely fixed: A. M. Simonetta, E&W n.s. 9 (1958), 182 (60—38 B.C.); cf. A. K. Narain, The Indo-Greeks, 144—145 (c. 95 to 75 B.C.).

[665] Various mints have been suggested for the issues of Maues. J. Marshall, Taxila, 2.778—779 suggests Kapisa, somewhere in Arachosia, and primarily at Taxila; A. M. Simonetta, E&W n.s. 9 (1958), 167 has Alexandria Arachosiae, Taxila, and Kapisa; cf. G. K. Jenkins, Indo-Scythic Mints, JNSI 17.2 (1955), 14 on the issues of Maues at Taxila. See also

J. F. Fleet, Moga, Maues and Vanones, JRAS (1907), 1013—1024 and G. Le Rider, Monnaies de Taxila et d'Arachosie; une nouvelle reine de Taxila, REG 80 (1967), 332—339.

[666] For the area of circulation of the coins of Maues see A. Cunningham, Coins of the Śakas, NC 3 ser. 10 (1890), 104; cf. R. Curial and D. Schlumberger, Trésors monétaires d'Afghanistan, MDAFA XIV (Paris 1953), 79 list a coin of Maues with a biga obverse in the Mir Zakah find in which the latest coins were those of Vasudeva I. But this hoard may have accumulated over a period of several centuries (cf. ibid., 99). At Taxila coins of Maues occur in Sirkap III and II, the late Śaka and Indo-Parthian levels of the city, see J. Marshall, Taxila 2.782. A mould for casting a coin of Maues was found at Sirkap in a level Marshall attributes to the supposed Kuṣāṇa destruction of the city, Taxila, 1.177. Unfortunately Marshall's stratigraphy is notoriously unreliable.

[667] BMC, Bactria and India no. 109, pl. XXVIII.21.

[668] R. Göbl, JNSI 22.2 (1960), 84—85; cf. F. Altheim and R. Stiehl, Geschichte der Hunnen, 5.9—10 argues that the prominence of Serapis on the coins of Septimius Severus and Caracalla inspired the coins of Huviṣka. But it is perhaps worth noting that a Greek inscription recording a manumission in a ἱερὸν Σαράπιος (third century B.C.) has been found in the territory of ancient Hyrcania. It may be that further excavations will turn up other evidence indicating the continued survival of this cult in Iran. For the text see L. Robert, Inscription hellénistique d'Iran, Hellenica 11/12 (1960), 85—91 = SEG XX.325.

[669] R. Göbl, JNSI 22.2 (1960), 93 cites BMC Alexandria nos. 612—614, but, given the relative poverty of that collection, this is an error. To date, few large collections of Alexandrian coins have been published. Given the number of unpublished pieces there is a strong likelihood that earlier issues of a given type will be found. The standing Serapis type cited by Göbl and thought by him to occur first under Hadrian can be found in Alexandrian issues of the years 8 and 9 of Vespasian (A.D. 75/76 and 76/77), see J. Vogt, Die alexandrinischen Münzen (Stuttgart 1924), I.43; 2.16 (no plates). So also J. G. Milne, Catalogue of Alexandrian Coins (Oxford 1933), nos. 444—445 (both are year 8); G. Dattari, Monete imperiali greche. Num. Augg. Alexandrini (Cairo 1901), no. 1470. For terracotta copies of a standing Serapis statue which may go back to the Augustan age, see H. Jucker, Die frühesten Reproduktionen des kanonischen Serapistyps auf Alexandrinischen Münzen, SM 19 (1969), 91—92, fig. 16; for a relief in the Cairo Museum depicting the standing Serapis type seen on the coins see T. Kraus, Alexandrinische Triaden der römischen Kaiserzeit, MDAI(K) 19 (1963), 97—99 who notes that the type becomes common on Alexandrian coins from Vespasian on.

[670] Göbl vacillates between the view that pattern books were imported or that the actual Roman coins were imitated (see works cited above). He also suggests that craftsmen from the Alexandrian mint were employed by the Kuṣāṇas, see R. Göbl, in: Congresso, Roma 2.512—513 and Idem, JNSI 22.2 (1960), 79. Such speculation is ironic in the face of Milne's observation that the mint-workers of Alexandria were surprisingly ignorant about the Egyptian themes they attempted to portray on some of the issues of the mint; see J. G. Milne, Roman Coinage in Relation to the Native Economy, Aegyptus 32 (1952), 148—149. See also the thesis of S. Skowronek, On the Problems of the Alexandrian Mint (Warsaw 1967), esp. 7, 16—54, 74—76, who stresses the extent to which the Alexandrian mint followed Roman types and was under Roman influence. The issues of this mint showed some surprising variations in both the quality of types and the spelling of the inscriptions. See detailed studies of the coins of Galba and Hadrian in J. G. Milne, The Alexandrian Coinage of the Early Years of Hadrian, NC 4 ser. 17 (1917), 31—52; Idem, The Alexandrian Coinage of Galba, NC 4 ser. 9 (1909), 274—284. Göbl is correct in noting that Serapis appears to have been a special favourite of Commodus if one may judge from the imperial coinage, e. g. BMCRE IV. pp. 756, 834, 836 but not the issues of the Alexandrian mint, see J. Vogt, Die alexandrinischen Münzen, 1.156—157. Cf. SB VIII.9658

wherein Ulpius Serenianus styles himself Φιλοκόμμοδος καὶ Φιλοσάραπις with comments of P. J. Parsons, Ulpius Serenianus, CE 49 (1974), 141—142.

[671] The number of finds of Alexandrian issues in the Roman Empire outside of Egypt is larger than generally believed, but by no means alters the statement made above. For these finds see examples listed below on p. 1002, n. 1454.

[672] The following have been found in Ceylon: 1 tdr. of Nero, 2 of Vespasian from the Kurunegala Dist.; the following are in the Colombo Museum: Hadrian 3 tdrs; Lucius Verus 1; Commodus 1; Aurelian 1; Diocletian 4. H. W. Codrington, Ceylon Coins and Currency (Colombo 1924), 36—37.

[673] E. g. 16 issues of the mint in Alexandria (Gordian III to Domitius Domitianus) from Ethiopia (prov. uncertain), see A. Anzani, Le monete dei Re di Aksum, RIN 4 ser. 43 (1941), 87, 90—91. Further on East African coin finds below p. 1023, n. 1536.

[674] The rare finds which have been reported are from the third century. At least twenty issues of the Alexandrian mint were found in 1832 in the coin collection of the Asiatic Society, Bombay; see J. Prinsep, On the Ancient Roman Coins in the Cabinet of the Asiatic Society, JASB 1 (1832), 402—404. Almost all of these are coins of Carinus and Diocletian; cf. J. Prinsep, Roman Coins in Upper India, JASB 1 (1932), 476, where several of the find spots of these coins are appended: Allahabad, Mirzapar, Bindachal, and Chunar.

[675] PMC I pl. XVIII.24 (copper coin of Kujula Kadphises); BMC, Bactria and India, p. 123, nos. 1—10. The two most well-preserved specimens of this type are in the ANS Museum in New York; see H. V. Trivedi, Some Saka, Pahlava and Kushana Coins in the Museum of the American Numismatic Society, JNSI 20.2 (1958), 159, pls. XII.9—10. See already A. M. Boyer, JA 9 ser. 15 (1900), 558—561; V. A. Smith, JRAS (1903), 29—30, 34. There is no agreement about the Roman type being imitated; see E. J. Rapson, JRAS (1913), 912: head of Augustus or Tiberius; V. A. Smith, Early History of India^4 (Oxford 1924), 238: the same; Idem, JRAS (1903), 30, n. 1; J. F. Fleet, JRAS (1913), 918, n. 4: original cannot be identified; J. Allan, Cambridge Shorter History of India (Cambridge 1934) 74: on the basis of the curule chair on the reverse suggests Claudius; U. Monneret de Villard, Le Monete dei Kushana e l'impero Romano, Orientalia 17 (1948), 208: head of Augustus; J. E. van Lohuizen de Leeuw, The 'Scythian' Period, 366: "probably" imitation of Augustus; A. L. Basham, BSOAS 15 (1953), 89: the same; cf. D. W. MacDowall, JNSI 30 (1968), 39.

Apart from coins and art (on which see above p. 632) further evidence on Roman influence has been found in the Ara inscription of the year 41 of a Kaniṣka (CIInd II.1.85). The list of titles as read by Lüders contains a unique addition: (ll. 1—2) *maharajasa rajatirajasa devaputrasa [ka]i[sa]rasa Vajheṣkaputrasa Kaniṣkasa.* It was argued by Lüders and others that *[ka]i[sa]rasa* was a borrowing of the Roman title *Caesar.* Cf. H. Lüders, Epigraphische Beiträge II: Die Inschrift von Ara, SPAW (1912), 2.824—831; S. Konow, The Ara Inscription of Kanishka II: The Year 41, EpInd 14.7 (1917), 130—143; Idem, Name and Designations of the Ruler Mentioned in the Ara Inscription, JBBRAS 1 (1925), 1—5; R. Ghirshman, Bégram, 101, 141; L. de la Vallée-Poussin, L'Inde aux temps des Mauryas, 316; J. E. van Lohuizen de Leeuw, The 'Scythian' Period, 305—307; A. L. Basham, BSOAS 15 (1953), 93—94; Idem, BSOAS 20 (1957), 85—88. The reading is quite correctly questioned by J. F. Fleet, JRAS (1913), 101—103; A. Maricq, Recherches, 7—8, n. 1; Idem, JA 246 (1958), 373—374. There is general agreement on the attribution of the Ara inscription to Kaniṣka II, not otherwise epigraphically attested, since the latest inscriptions of Kaniṣka the Great (from Mathurā) are dated to the years 20 and 23 (cf. D. R. Sahni, Three Mathurā Inscriptions and their bearing on the Kushana Dynasty, JRAS [1924], 399—402). The king in the Ara inscription gives his father as Vasiṣka, probably the same as occurs in a number of texts as a ruler in the line of the Great Kuṣāṇas; cf. three Brāhmī inscriptions in H. Lüders, A List of Brahmi Inscriptions from the Earliest Times to about A.D. 400, with the Exception of those of Aśoka, Appendix, EpInd 10 (1912), nos. 149 (year 24 of the Kaniṣka era), 33 and 161 (both year 28) (cited hereafter as: Lüders, Brāhmī Inscr.); cf. H. Humbach, Die Kaniṣka-Inschrift von Surkh-Kotal (Wiesbaden 1960), 56, whose interpretation of this famous text yields the conclusion that the Kozgaṣka mentioned in line 23 was Kaniṣka's father and therefore the Kaniṣka in the Ara inscription is definitely a different ruler. (Cf. below n. 686 on this text.) Humbach's interpretation is, however, generally rejected.

[676] Göbl has made much of this unique piece from the British Museum, both to draw totally unacceptable historical conclusions about the relationship between fourth century Rome with the Kuṣāṇas and about the date of Vasudeva. See R. Göbl, AAWW 101. 21 (1964), 149—151; Idem, Dokumente zur Geschichte der Iranischen Hunnen 2. 301—321; 3. pl. 92. This reasoning is open to various criticisms, all of them fatal. The medallion is a work of art and both obverse and reverse types are barbarized and have misspelled legends. It is not a regular issue of the Kuṣāṇa mint (cf. comments of D. W. MacDowall, Proc. Dushanbe, 257). Kuṣāṇa gold coins continued to circulate in the regions of the defunct Great Kuṣāṇa Empire until at least the fourth century. For example, a foundation deposit from a palace site at Chanaka-dheri contained Kidarite coins as well as gold issues of Vima Kadphises, Kaniṣka and Huviṣka, see T. Higuchi, Kyoto University Mission's Work in the Kushan Area, Proc. Dushanbe, 177. In 1959 a pot containing a gold coin of Vasudeva and a gold coin of Chandragupta II was found at Sultanganj, see INC 1.1/2 (1960), 86. At Delhupur 33 gold coins from Kaniṣka to Vasudeva II were found and at Harsinghapur 22 such coins from Kaniṣka and Vasudeva through to the Kuṣāṇo-Sasanians, see A. K. Srivastava, Findspots of Kushana Coins in U.P., BMAUP 8 (1971), 38 nos. 6, 8; in detail on the Delhupur find see Idem, A Hoard of Kusana Gold Coins from Jaupur District, BMAUP 4 (1969), 27—30, a hoard of 12 gold coins was found at Sancanakot, Unnao Dist.: Vasudeva 3, Later Kuṣāṇas 9 (8 of Ardoksho type), see A. K. Srivastava, Kuṣāṇa Gold Coins from Unnao District, BMAUP 5/6 (1970), 31—30.

[677] Periplus c. 47 (= Frisk, p. 16.3—6) can be of assistance: 'Επίκειται δὲ κατὰ ⟨νώ⟩του τῇ Βαρυγάζῃ μεσόγεια πλείονα ἔθνη, τό τε τῶν 'Αρατρίων καὶ ⟨Α⟩ραχουσ⟨ί⟩ων καὶ Γανδαραίων καὶ τῆς Προκλ⟨α⟩ΐδος, ἐν οἷς ἡ Βουκέφαλος 'Αλεξάνδρεια. Καὶ τούτων ἐπάνω μαχιμώτατον ἔθνος Βακτριανῶν, ὑπὸ βασιλέα ὄντων ἴδιον [τόπον]. The text has been variously emended: Müller, GGM I. p. 276 proposed ὄντων ἰδιότοπον or οἰκοῦν ἴδιον τόπον; Kennedy emended the codex reading οὖσαν to Κούσαν (cf. J. Kennedy, A Passage in the Periplus, JRAS [1913], 128—129) and read ὑπὸ βασιλέα [Κ]ούσαν [ἄρχοντα] ἴδιον τόπον; B. Fabricius, Der Periplus des Erythräischen Meeres von einem Unbekannten (Leipzig 1883) suggested ὄντων ἴδιον, and Palmer emended ἦσαν Διόδοτον, J. A. B. Palmer, Periplus Maris Erythraei, Remarks on chapter 47, CQ (1949), 61—64. F. Altheim and R. Stiehl, Geschichte der Hunnen, 5.13 accept ὄντων ἰδιότοπον. The greatest violence is done to the text by MacDowall, who emends capriciously: ὑπὸ βασιλέα Κούσαν Ἴδιον ὄντα πάντα, D. W. MacDowall and N. G. Wilson, NC 7 ser. 10 (1970), 222—230, identifying his creation Ἴδιον with Soter Megas whom he suggests is identical with Heraios. This clearly will not do, as becomes apparent if one studies the distribution patterns of the coins of Heraios and Soter Megas. As noted above (pp. 663—665), the 'Periplus' can be definitely dated between A.D. 40 and 70 and probably slightly more accurately by the numismatic evidence (see above pp. 665—668). Thus during this period, according to c. 47, the Kuṣāṇas (Bactrians) were still confined to the area north of the Hindu Kush. This definitely eliminates any question of Kaniṣka ruling by A.D. 78. The Panjtar inscription of the year 122, which provides the first epigraphic evidence for a Kuṣāṇa ruler in Northwest India, must thus be dated at least several years later than A.D. 40. In brief, this means that Kaniṣka cannot be assigned to any period before the early second century. If one adheres to the generally accepted view that the inscriptions dated in the Kaniṣka era fall between the Dewai text of the year 200 and the Charsada inscription of the year 303, then 'Periplus' c. 47 provides further evidence that Ghirshman's date of A.D. 144 is correct or at least very close, since from the 'Periplus' we can determine that the era used in the earlier series of dated texts (e. g. the Takht-i-Bahi and Panjtar inscriptions CIInd II.1. 20, 26) must be the Vikrama era of 58 B.C. I shall deal with these problems again in greater detail elsewhere in a

separate study of the date of the 'Periplus'. The problem may possibly be solved in an unexpected manner: by the discovery of a Kuṣāṇa coin in a firmly dated Roman hoard; see, for example, the AE piece of Vasudeva found (but on the surface) together with Roman coins at Tell Rifa'at north of Aleppo, P. A. Clayton, The Coins from Tell Rifa'at, Iraq 29.2 (1967), 147 no. 8.

[678] Some assume an ephemeral conquest of much of the Ganges Valley by Kaniṣka; e. g., see L. K. Tripathi, The Local Coins of Northern India: Their Bearing on History, in: A. K. Narain (ed.), Seminar Papers, 175; A. Dani and F. Khan, in: Proc. Dushanbe, 96. A list of gold and copper Kuṣāṇa coins found in Bihar, Bengal, Orissa, and Bangladesh may now be found in S. P. Singh, JNSI 35 (1973), 127—135. He suggests that all of these regions were conquered either by the Kuṣāṇas themselves or by their vassals (!), the Muruṇḍas, to whom he also attributes the Puri-Kuṣāṇa coins (on which see above p. 752, n. 465). An uninscribed copper coin has, I think mistakenly, been attributed to a Kuṣāṇa governor of Kauśāmbi: A. S. Altekar, New and Interesting Coins and Seal from Madhyadesa (U.P.), JNSI 8 (1946), 10—11. The Kauśāmbi area has also yielded two inscriptions from the third year of Kaniṣka: Lüders, Brahmi Inscr., nos. 925 and 927. Since these texts come from the pedestals of Buddhist dedications, it has been suggested that the images along with their inscriptions were imported from the Kuṣāṇa artistic centre of Mathurā and are thus not evidence of a Kuṣāṇa conquest of this region; see K. D. Bajpai, The Maghas of Kauśāmbi and South Kośala and the Allied Problems, INC 3.1 (1962), 18—21; cf. B. N. Mukherjee, Kanishka, I, 93—94, n. 74, and also P. L. Gupta, IHQ 29.3 (1953), 205—221, who argues that the presence of Kuṣāṇa copper coins in the Ganges valley does not reflect a political expansion into this area. For circulation of Kuṣāṇa copper coins in the territory of Madhya Pradesh see the hoard of 757 copper coins of Vima Kadphises to Huviṣka from Beohari Tahsil, Shahdol Dist., B. Jain, Kushāṇa Coins from Shahdol District, JNSI 28.1 (1966), 1—5. For a list of Kuṣāṇa coin finds in Uttar Pradesh see A. K. Srivastava, BMAUP 8 (1971), 37—43. The Mathura district alone has yielded three reported hoards with a total of about 4,000 coins (e. g. in 1969/70 1221 Kuṣāṇa copper coins from Tehsil Mat) see C. S. Srivastava, Kuṣāṇa Hoards of Treasure Trove Coins from Uttar Pradesh (1941—42 to 1969—70), BMAUP 3 (1969), 48—67. Recently the circulation and imitation of Kuṣāṇa coins in Orissa, Bihar and Bengal has again been used to argue for an extension of Kuṣāṇa rule into these areas, see D. Sircar, Eastern India and the Kushans, in: Proc. Dushanbe 2.7—14; cf. P. L. Gupta, Kushana-Murunda Rule in Eastern India-Numismatic Evidence, JNSI 36 (1974), 25—53 who rejects Kuṣāṇa rule in all three areas. A slightly more convincing case can be made for Kuṣāṇa control of the Central Ganges valley on the basis of the important new finds at Kausambi: a further inscription dated by Kaniṣka and a sealing bearing Kaniṣka's name and titles, see G. Sharma and J. Negi, The Saka-Kushans in the Central Ganga Valley, Proc. Dushanbe 2.15—41 who also adds pottery, terracottas and arrowheads, but none of these criteria are definitive. The influence of Kuṣāṇa coinage has also been noted in Nepal. Two coins of Vima Kadphises and one of Kaniṣka have been found at Kathmandu, see E. H. Walsh, The Coinage of Nepal, JRAS (1908), 677—678. For the influence of the Kuṣāṇa copper weight standard and of Kuṣāṇa types on the earliest indigenous coinage of Nepal, see D. W. MacDowall, The Coinage of Ancient Nepal, JNSI 21.1 (1959), 40, 53.

[679] Opinions differ here among both Soviet and Western scholars, since our chief evidence, the range of circulation of Kuṣāṇa coins, is not a reliable guide. R. Frye, NNM, no. 113 (1949), 9 suggests that Kuṣāṇa mints existed in the area north of the Oxus. Most are inclined to include Choresmia, so S. P. Tolstov, Drevnii Khorezm, 102—118; Idem, Po sledam drevnekhorezmiiskoi tsivilizatsii (Moscow/Leningrad 1948), 150—153; B. G. Gafurov, Istoriia tadzhikskogo naroda v kratkom izlozhenii, 1 (Moscow 1952), 76, and K. V. Trever, Kushanskaia imperiia (I—IV vv.), in: Istoriia Uzbekskoi SSR 1.1 (Tashkent 1955), 94—95. Sogdiana is also included by Gafurov and Trever (op. cit). So also B. Ia. Staviskii, O severnykh granitsakh kushanskogo gosudarstva, VDI (1961), 1.108—114, who in her study of the northern boundaries of the Kuṣāṇa state also includes

Chach. But the inclusion of Choresmia and Sogdiana is, as necessary in the light of his Kuṣāṇa chronology, rejected by E. V. Zeimal, NE 3 (1962), 145. Also in greater detail V. M. Masson, Khorezm i Kushany (Nekotorye voprosy Khorezmiiskoi numizmatiki), EV 17 (1966), 79—84, who notes particularly that the minting of Choresmian coins seems to have proceeded uninterrupted from the imitation Eucratides pieces through the Kuṣāṇa period. For the inclusion of Ferghana in the Kuṣāṇa Empire see the speculative remarks of A. N. Bernshtam, Istoriko-arkheologicheskie ocherki Tian'-Shania i Pamiro-Alaia, MIA 26 (Moscow/Leningrad 1952), 232—244. For Kuṣāṇa control of Margiana see R. Ghirshman, Bégram, 126 cf. rejection in M. E. Masson, Novye dannye po drevnei istorii Merva, VDI (1951), 4.100—101. The most sane recent analysis is that of M. E. Masson, K voprosy o severnykh granitsakh gosudarstva 'Velikikh Kushan', in: Proc. Dushanbe 3.42—49 who argues that Sogdiana, Chach, Ferghana and Choresmia were not included in the Kuṣāṇa Empire and that the northern frontier ran primarily along the Amu Darya.

[680] So also E. G. Pulleyblank, Bhārāti 10/11 (1966—1968), 119—121. A terminus ante quem for this occupation is provided by the use of Prakrit in the Kharoṣṭhī script in documents at Niya and Lou-lan. Rapson has suggested a date of 200—270 or 250—320 for the Kharoṣṭhī inscriptions from the Tarim Basin. So also J. Brough, A Kharoṣṭhī Inscription from China, BSOAS 24.3 (1961), 529—530. For a more closely defined date from the mid-third to the early fourth centuries, Idem, Comments on Third-Century Shan-shan and the history of Buddhism, BSOAS 28 (1965), 582—605; Idem, Supplementary Notes on Third-Century Shan-shan, BSOAS 33 (1970), 9—45; cf. criticism of M. Loewe, Chinese Relations with Central Asia 260—290, BSOAS 32 (1969), 91—103. Also for a third and fourth century date Kazuo Enoki, Yu-ni-ch'eng and the site of Lou-lan, Ural-Altaische Jahrbücher 33 (1961), 53—55; cf. also S. P. Tolstov, Po sledam, 152—153.

[681] The last event mentioned in the 'Hou Han-shu' is the intervention of a Chinese administrator in the kingdom of Chu-mi in A.D. 175. See analysis of last years of Chinese rule in Tarim Basin in E. G. Pulleyblank, Bhārāti 10/11 (1966—1968), 117—119.

[682] For publication of the documents see above p. 789, n. 622. On the Indian titles in these documents see R. C. Agrawala, Epithets and Titles of Rulers as Depicted in the Kharoṣṭhī Documents from Chinese Turkestan, JUB n.s. 24 (1956), 1—5. For the close relationship of the language of the Tarim Basin documents to that found in the inscriptions of the Ghandara region of Northwest India see T. Burrow, The Dialectical Position of the Niya Prakrit, BSOS 8.2/3 (1936), 419—430, 434; cf. H. W. Bailey, Gandhari, BSOAS 11.4 (1946), 764—797; F. W. Thomas, The Early Population of Lou-lan-Shan-shan, JGIS 11.2 (1944), 48—49, 56—64 (on administrative terminology). In general on the character of the language see T. Burrow, The Language of the Kharoṣṭhī Documents from Chinese Turkestan (Cambridge 1937), v—ix; for Khotan see H. W. Bailey, Saka Studies: The Ancient Kingdom of Khotan, Iran 8 (1970), 69—72.

[683] No thorough study of these coins exists and a full collection of the material has never been made. See P. Gardner, NC n. s. 19 (1879), 275—276 (attributes two coins found by Forsyth to Hermaeus) = BMC, China, p. 394 (although these coins are usually described as AE, Gardner, op. cit., 277 maintains on the basis of chemical analysis that these two coins are iron); A. F. Rudolf, Indo-Chinese Coins in the British Collection of Central Asian Antiquities, Indian Antiquary 28 (1899), 46—56 = INC 3.1 (1962), 100—119, who adds 72 coins acquired at Khotan. Stein obtained by excavation or purchase 185 such coins: M. A. Stein, Ancient Khotan 1.575; Idem, Serindia, 3.1340—1350 (coins from Yotkan, Yurung-Kash, Niya River site, Domoko, and Chalma-Kazan); Idem, Innermost Asia, 2.988—995; PMC I. p. 167, nos 134—135. The coins have been assigned to various periods, e. g., A. H. Francke, Notes on Khotan and Ladakh, Indian Antiquary 58 (1929), 147, after the expulsion of the Kuṣāṇas from Khotan; cf. F. W. Thomas, NC 6 ser. 4 (1944), 83—93, who tentatively suggests Yarkand as the place of minting; Kazuo Enoki, On the So-called Sino-Kharoṣṭhī Coins, E&W n. s. 15.3/4 (1965), 231—266, who argues

that the coins are most closely similar to issues of the Ch'in state (third century B.C.) and coins of the Greek Kings of Bactria. Enoki thus proposes that they were minted at Khotan before 80—60 B.C. D. W. MacDowall, Numismatic Evidence for the Date of Kaniṣka, in: Kaniṣka Papers, 146—147 suggests that the Sino-Kharoṣṭhī coins were struck by the local rulers of Khotan in imitation of the denominations and standard of Kuṣāṇa copper coinage. Cf. B. N. Mukherjee, Central Asian Coins Bearing Chinese and Kharoshthi Inscriptions, JNSI 35 (1973), 101—105 who rejects (101, n. 4) the correctness of MacDowall's metrological analysis and argues (unconvincingly) that they were issued by a dynasty of Indo-Parthian rulers of Khotan.
Kuṣāṇa coins also circulated in the Tarim Basin: Yotkan yielded 2 AE of Kaniṣka during Stein's second expedition, M. A. Stein, Serindia 3.1340—1341; the third expedition found one coin each of Kaniṣka and Vima Kadphises, Idem, Innermost Asia 2.995. The term "stater" occurs a number of times in the Kharoṣṭhī documents: Kh. Inscr. 12 (reporting the discovery of 2 gold staters in a pot), 324, 419 and 431; see on these R. C. Agrawala, Numismatic Data in the Kharoshthi Documents from Chinese Turkestan, JNSI 14 (1952), 103—104; Idem, Greek Stater in Ancient Indian Epigraphs and Literature, JNSI 15 (1953), 153—154 and Idem, JNSI 16 (1954), 221—224.

[684] For the dominance of Indian cultural traits in physical remains from Khotan see G. Montell, Sven Hedin's Archaeological Collections from Khotan, BMFEA 10 (1938), 88—92 on the signet rings from the site. Various efforts have been made to trace the original languages of Khotan and Niya, but none has been entirely successful; see T. Burrow, Iranian Words in the Kharoṣṭhī Documents from Chinese Turkestan, BSOS 7 (1934), 509—516; ibid., 779—790; Idem, Tokharian Elements in the Kharoṣṭhī Documents from Chinese Turkestan, JRAS (1935), 667—675. Cf. conclusion of R. Shafer, Languages of Ancient Khotan, ArchOr 29 (1961), 47—48 that it may not be possible to trace the non-administrative language of Khotan, and Idem, Place Names in Khotani Saka, MS 26 (1967), 445—454, who points to the absence of Śaka place names. For Tocharian as the language spoken by the native population see E. G. Pulleyblank, JRAS (1966), 16, and A. J. van Windekens, Note sur un terme des documents Prakrits kroraïniques d'Asie Centrale, CAJ 15.3 (1971), 161—163.

[685] The local foundation legend of Khotan names Gostana, a son of Aśoka, as the founder; see F. W. Thomas, Tibetan Literary Texts and Documents Concerning Chinese Turkestan, I (London 1935) (henceforth Thomas, Tibetan Texts), pp. 97—192 (Annals of the Li Country, 427b—429b) with Kustana for Gostana; H. Seth, The Kingdom of Khotan under the Mauryas, IHQ 15 (1939), 389—402; J. Brough, Legends of Khotan and Nepal, BSOAS 12 (1948), 333—339; cf. W. Samolin, Ethnographic Aspects of the Archaeology of the Tarim Basin, CAJ 4.1 (1958), 52, who suggests a later invention. See also the tradition in the Tibetan version of the 'Prophecy of Gośṛṅga' that Khotan (Kustana) was founded by both Chinese and Indians, Thomas, Tibetan Texts, I. p. 18; so also in 'Annals of the Li Country': "Li being a land where India and China meet, the common language agrees with neither India nor China. The letters agree successively with India. The manners of the laity agree for the most part with China: the clerical manners and the clerical language agree for the most part with India." Cf. Thomas, Tibetan Texts, I. p. 102. A unique bilingual gold coin with Greek and Kharoṣṭhī legends of a king Aṭhama was published by E. J. Rapson, Notes on Indian Coins and Seals, VI, JRAS (1905), 796—797 = PMC, I. p. 145, no. 399, who suggested parallels from the coins of Azes and Azilises. The name Aṭhama appears in several Kharoṣṭhī Documents, e. g., Kh. Inscr., nos. 418 and 709, and the Tibetan text of the 'Annals of the Li Country' refers to an ancient shrine at Khotan as the *stupa* of 'A-dha-ma; see Thomas, Tibetan Texts, I. p. 91; cf. Idem, Sino-Kharoṣṭhī Coins, NC 6 ser. 4 (1944), 96 where he notes that the coin of Aṭhama may provide evidence of Indian settlements at Khotan by the first century B.C. Soviet archaeologists have also argued on the basis of general similarities in bead designs, pottery and metal artifacts that the contact between some parts of India and Central Asia, particularly the Pamirs, may go back to the Achaemenid period or earlier; see B. A. Litvinskii, Tadzhikistan i Indiia, in: Indiia v Drevnosti, 143—159.

[686] There is also a local tradition which links Kaniṣka himself with Khotan; see 'Annals of the Li Country', in Thomas, Tibetan Texts, I. p. 119. A Khotanese text from the Pelliot collection (Bibliothèque Nationale, P. 2787) contains part of a legend about Kaniṣka which places his origins in the kingdom of Balkh (*bāhulaka*) in "Tocharistan", (*ttāhvara-sthaima*), published by H. W. Bailey, Kaṇaiska, JRAS (1942), 18—19, line 158; cf. W. B. Henning, Argi and the 'Tokharians', BSOS 9.3 (1938), 547. On the bureaucratic practices found in the Kharoṣṭhī documents see R. C. Agrawala, Scribes in Kharoṣṭhī Documents from Chinese Turkestan, Bhārāti 10/11 (1966—1968), 123—130.

The Prakrit language and the Kharoṣṭhī script are, however, not the means of expression used by the Kuṣāṇas to administer the Bactrian core of their empire. There, as evidenced by the inscriptions from Surkh Kotal (see R. Curiel, Inscriptions de Surkh-Kotal, JA 242 [1954], 189—205; A. Maricq, JA 246 [1958], 352—353, 414—417; E. Beneviste, Inscriptions de Bactriane, JA 249 [1961], 113—152; J. Harmatta, The Great Bactrian Inscription, AAntHung 12 [1964], 470; H. Humbach, Die Kaniṣka-Inschrift von Surkh-Kotal [Wiesbaden 1960], 10—11; Idem, Baktrische Sprachdenkmäler [Wiesbaden 1966], 78—88) a modified form of the Greek alphabet was used to write an Iranian language variously described as Bactrian or 'Eteo-Tocharian'. See W. B. Henning, The Bactrian Inscription, BSOAS 23.1 (1960), 47—55 (who chose the term 'Bactrian'); criticized by A. Maricq, Bactrien ou Étéo-Tokharien ?, JA 248 (1960), 161—166. See also A. Maricq, JA 246 (1958), 347—352, 375—384, 395—429, and J. Harmatta, AAntHung 12 (1964), 376—382 (who rejects Maricq's terminology and returns to that of Henning). Four other fragmentary Bactrian inscriptions have also come to light at Surkh Kotal, see J. Harmatta, Minor Bactrian Inscriptions, AAntHung 13 (1965), 149—205 who has a full discussion of the texts (reference to which work was omitted by Humbach in his corpus), and H. Humbach, Baktrische Sprachdenkmäler, I.100—103; also ibid., 104, an unpublished text from Jagatu; two further texts from Uruzgan were published by A. D. H. Bivar, The Inscriptions of Uruzgan, JRAS (1954), 112—118; cf. H. Humbach, op. cit., 103 with different readings. Humbach's corpus is not complete and Soviet excavations in Central Asia have yielded further evidence for the widespread use of Bactrian. Seventy-nine Bactrian inscriptions and graffiti from the caves of the Kara Tepe monastery were published and analysed by J. Harmatta, The Bactrian Wall-Inscriptions from Kara Tepe, in: Buddiiskie peshchery Kara-Tepe v Starom Termeze (Moscow 1969), 82—120. At Khalchaian two sherds from a pot with a Bactrian inscription were found, see G. A. Pugachenkova, Khalchaian (Tashkent 1966), 59—60, pl. 35; cf. 49, pls. 26—27.

On the coins of the Kuṣāṇas Greek is still the language of the inscriptions on the obverse of the coins of Kujula Kadphises and Vima Kadphises. The reverse under these kings bore Kharoṣṭhī inscriptions (the titles on the obverse and reverse frequently do not correspond). The early issues of Kaniṣka (R. Göbl, in: F. Altheim and R. Stiehl, Finanzgeschichte der Spätantike, pl. 2.20—23) still use Greek (cf. R. Göbl, Zwei Neufunde in der Numismatik der Kuschan, MÖNG 11 [1960], 94—96), but for the greater part of his reign and under subsequent rulers the Bactrian language is used on both obverse and reverse. These legends are also discussed in H. Humbach, Baktrische Sprachdenkmäler, I.42—48.

For gems and seals with Bactrian inscriptions see: R. Göbl, Dokumente zur Geschichte der Iranischen Hunnen in Baktrien und Indien, 1 (Wiesbaden 1967), 221—227, Gl-8 (one is said to be from Sahri Balul, another was purchased by Stein at Yotkan, for the rest the provenance is unknown). The same seals reappear with briefer commentary in H. Humbach, op. cit., 1.70—72, Sig. 1—8. See also A. D. H. Bivar, Notes on Kushan Cursive Seal Inscriptions, NC 6 ser. 5 (1955), 203—210. Four further seals from the Hermitage (in neither of the above collections) were published by B. Y. Stavisky, Notes on Gem-Seals with Kushana Cursive Inscriptions in the Collection of the State Hermitage, JNSI 22 (1960), 102—108. Also two further sealings from Pendzhikent, A. M. Belenitskii, Raboty pendzhikentskogo otriada v 1961 g., TIIANTadzSSR 42 (1964), 64—65.

Thus in general the use of Kharoṣṭhī and Brāhmī appears to be confined to the Indian portion of the Kuṣāna domains, although both languages were in use in monasteries outside these areas. Cf. N. G. Majumdar, Peshawar Museum Inscription of the Year 168, EpInd 19 (1928), 202—203, and the Brāhmī and Kharoṣṭhī inscriptions on the pottery from Kara

Tepe in T. V. Grek, Kara-Tepe: Buddiiskii peshchernyi monastyr' v Starom Termeze (Moskow 1964), 62—74 (Kharoṣṭhī), 74—80 (Brāhmī), and J. Harmatta, K interpretatsii nadpisei na keramike iz Kara Tepe, in: Buddiiskie peshchery Kara-Tepe, 32—37 and 37—39 (a Brāhmī and Bactrian bilingual fragment). Buddhist association is also suggested for the short Kharoṣṭhī inscriptions found at Begram, R. Ghirshman, Bégram, 46, 57, 61, 72. The first of these inscribed clay objects comes from the earliest level of the city. Cf. the republication and discussion of these four inscriptions in J. Harmatta, Sino-Indica, AAntHung 12 (1964), 3—9. A. Buddhist relief with a Kharoṣṭhī inscription has also been found at Begram, S. Konow, Kharoshthi Inscription on a Begram Bas-relief, EpInd 22 (1933/34), 11—14; a vase with a Buddhist Kharoṣṭhī dedication was found in the Butkara excavations, L. Petech, A Kharoṣṭhī Inscription from Butkara I (Swat), E&W n. s. 16.1/2 (1966), 80—81. A small Kharoṣṭhī fragment from the excavations at Termez is published by M. I. Vorob'eva-Desiatovskaia, Pamiatniki indiiskoi pis'mennosti iz Srednei Azii, in: Indiia v Drevnosti, 210—212. The same author also (210, 216 n. 2) points out that the graffito at Darshai in the Pamirs previously identified as Kharoṣṭhī (so A. N. Bernshtam, Novye nadpisi iz Srednei Azii, EV 3 [1949], 57—58) is in fact Tibetan. The potsherds with Kharoṣṭhī inscriptions from the vicinity of Peshawar are also of Buddhist content, see B. C. Chhabra, Peshawar Potsherds with Kharoshthi Writing, EpInd. 28.3 (1953), 125—129 nos. 1—2.

A unique copper coin recently (1973) found at Sonk in Mathurā with a Brāhmī legend on both obverse and reverse is attributed to Kaniṣka I by P. L. Gupta, A Kushana Coin with Brahmi Legend, JNSI 35 (1973), 123—126. This attribution seems very dubious. Cf. B. N. Mukherjee, An Interesting Coin from Sonkh, Mathura, MBAS (Aug., 1974), 5—6 who attributes the coin to Kaniṣka III. The above survey suggests that the Kharoṣṭhī script became the vehicle for administration in the eastern Tarim Basin because a strong Indian element existed already in the area before the arrival of the Kuṣāṇas. The script appears to have remained in use in the Tarim Basin long after it died out in India. Seventh century texts from Kuci, presently still unpublished, were written in this script; cf. H. W. Bailey, The New Iranian Materials from Turkestan, The K. R. Cama Oriental Institute 39 (1958), 122. But by the fifth century Brāhmī is also in use for religious purposes in Kansu, hence the unique Brāhmī inscription from T'un-huang, see V. V. Gokhale, A Brāhmī Stone Inscription from Tunhuang, SIS 1.1 (1944), 18—22.

[687] The archaeological evidence for Buddhist monasteries is collected above p. 748, n. 445.

[688] None of this, however, need imply that Kaniṣka and his successors were patrons of Buddhism, as later Buddhist legend holds. See on these legends M. Bussagli, The Problem of Kaniṣka as seen by the Art Historian, in: Kaniṣka Papers, 42—48; F. Wilhelm, Kanika and Kaniṣka — Asvaghoṣa and Mitṛzeṭa, in: Kaniṣka Papers, 337—344, and L. Petech, Kashmiri and Tibetan Materials on the Date of Kaniṣka, in: ibid., 244—246. For the tradition connecting Kaniṣka with the construction of the great *stupa* at Peshawar see J. P. Vogel, A Statue of King Kanishka, JPanHS 2.1 (1913), 43—45. Cf. Y. Krishan, Was Gandhara Art a Product of Mahāyāna Buddhism?, JRAS (1964), 104—119 who argues that Kaniṣka did not patronize Mahāyāna Buddhism (but rather Hīnayāna Buddhism) and that this creed was not responsible for the introduction of the physical representation of Buddha found in Gandhara art; cf. R. C. Sharma, Pre-Kaniṣka Buddhist Iconography at Mathura, BMAUP 5/6 (1970), 16—25 who argues that the Buddha image was a development at Mathura at least a generation before Kaniṣka.

The seated, cross-legged figure on the reverse of some gold and copper coins of Kaniṣka has been understood to represent a figure of Buddha (BMC, Bactria and India, p. 175, pl. XXXII.14; PMC 1. p. 214, pl. XX. vii and viii — the former is gold). This has been the view held by many scholars: so A. Cunningham, Coins of the Kushans, or Great Yue-Ti, NC 3 ser. 12 (1892), 57—58, and still Bussagli, op. cit., 44; cf. J. Marshall, Taxila, 1. 71, who suggests on the basis of his excavation of the monasteries about Taxila that Buddhism reached its high point of prosperity under Vasudeva I. Cf. R. Göbl, in: F. Altheim and R. Stiehl, Finanzgeschichte der Spätantike, 190—191, who notes that the Buddha reverse was not among Kaniṣka's most numerous issues. The coin, considering the number of deities represented on Kuṣāṇa coins, certainly does not prove a close relationship between Kaniṣka and Buddhism. For another such coin found in the Basti District see V. S. Agrawala, A Coin of Kaniska with the Figure of Buddha, JNSI 8 (1946), 61—62; cf. H. V. Trivedi, A Note on Buddha on Indo-Scythian Coins, JNSI 15 (1955), 155—158.

Nevertheless Buddhist legend attributes to Kaniṣka the founding of a number of important monasteries. Some of these have been excavated, but they were so frequently rebuilt and altered in antiquity that there remain few traces of the original structure: e. g., Shotorak and Shah-ji-ki-Dheri, cf. J. Meunie, Shotorak, MDAFA 10 (Paris 1942), and H. Hargreaves, Excavations at Shah-ji-ki Dheri, ASI AnnRep (1910—1911), 25—32. The famous casket inscription from the *stupa* here (CIInd II.1.72) has been edited a number of times, most recently by B. N. Mukherjee, Shāh-ji-kī Ḍheri Casket Inscription, BMQ 28 (1964), 39—45 whose reading eliminates the previous reference to a year in the Kaniṣka era (although the king is still mentioned). For the archaeological evidence of the spread of Buddhism in Central Asia, see above n. 445 and the recent study of B. A. Litvinskii, Rasprostranenie Buddizma v Srednei Azii, in: Proc. Dushanbe 2.191—198.

[689] It was once believed that Buddhism had its earliest impact on China by way of the South coast of China. Subsequently is was argued that the transliterations of Indian words indicate that the early Chinese translations were made from Prakrit rather than Sanskrit originals; see P. Pelliot, Les noms propres dans les traductions du Milindapañha, JA 185 (1914), 379—419; cf. H. W. Bailey, The Khotan Dharmapada, BSOAS 11. 3 (1945), 488—489. On one of the first of these translations see L. R. Lancaster, The Chinese Translation of the 'Aṣṭasāhasrikā-Prajñapāramitā-Sūtra' Attributed to Chi Ch'ien, MS 28 (1969), 246—257. In general see P. Pelliot, Review of Ed. Chavannes, Les Pays d'Occident d'après le Wei lio . . ., BEFEO 6 (1906), 392—384; J. Brough, BSOAS 28 (1965), 585—587; and also A. B. G. Gafurov, Proc. Dushanbe, 77—78. Cf. Hian-lin Dschi, On the Oldest Chinese Transliteration of the Name of Buddha, SIS 3.1/2 (1948), 1—9 and W. Liebenthal, On the Sanskrit Equivalent of Fo-t'u teng, SIS 3.3/4 (1949), 127—130.

A Kharoṣṭhī inscription possibly recording the dedication of a well to a monastery has been found at Lo-yang(?) On palaeographic grounds the text is dated to the same period as the Niya documents (cf. above n. 622); J. Brough, A Kharoṣṭhī Inscription from China, BSOAS 24. 3 (1961), 517—530. For early Buddhist monasteries and scholars in China see H. Maspero, Les origines de la communauté buddhiste de Lo-yang, JA 225 (1934), 87—107.

[690] On the exaggerated importance of the Kuṣāṇas as middlemen see the authors cited above n. 640.

[691] Pan Ch'ao is in touch with the Kuṣāṇas by A.D. 84 when he sends an embassy laden with silk to their king: HHS 77; cf. E. Chavannes, TP 2 ser. 7 (1906), 230. (On Pan Ch'ao see above pp. 618—619.) In A.D. 88 the Kuṣāṇas aided Pan Ch'ao in attacking Turfan, but the Chinese general refused to countenance the Kuṣāṇa request for the hand of a Han princess. The Kuṣāṇa king in A.D. 90 sent an army led by a viceroy, Hsieh, to aid his ally, Kucha, then at war with China, but Hsieh was defeated by Pan Ch'ao: HHS 77; cf. E. Chavannes, TP 2 ser. 7 (1906), 232—233. Again in A.D. 114/116 the king of Kashgar went into exile with the Kuṣāṇa king, his maternal uncle, who sent troops to restore him to his kingdom: HHS 118; cf. E. Chavannes, TP 2 ser. 8 (1907), 205. A recent effort to identify the Kuṣāṇa viceroy, Hsieh, who commanded the invading army which Pan Ch'ao defeated, yields no conclusive results; see K. Enoki, Hsieh, Viceroy of the Yueh-Chih (A Contribution to the Chronology of the Kushans), in: Proc. Dushanbe, 265—274.

[692] For the rich treasure of imports from Begram see above pp. 632—634. On prosperity of the Taxila region under the Kuṣāṇas see J. Marshall, Taxila, 1.70—72, who notes the foundation of the numerous monasteries, notably Mohra Moradu, Kalawan, Jaulian and Giri (on which see ibid., 322—347, 358—364, 368—387). Such prosperity is also reflected in the tremendous productivity of the Mathurā school of sculpture; see J. M. Rosenfeld,

The Mathurā School of Sculpture, in: Kaniṣka Papers, 259—266. The high density of settlement in the Kuṣāṇa period is reflected in the large number of sites which have yielded pottery and terracottas typical of the Sunga and Kuṣāṇa periods, see for example, R. C. AGRAWALA, Interesting Kuṣāṇa Terracottas and Sculptures from Rajasthan, IHQ 38.4 (1962), 260—266 (finds from Ahar, Sambhar, Rairh, Nagar, Rangamahal, Nanda, Noh and Aghapura).

It has been suggested by BIVAR that the Kuṣāṇa Empire and its attendant artistic culture began to collapse already shortly after the middle of the second century under the devastating onslaught of the smallpox epidemic which reached the Roman Empire in A.D. 165/166. BIVAR points to the large number of Hāritī (demon of smallpox) figures in Gandhara art and argues that these coincide with a great pestilence of the mid second century. Of these only one, the Skārah Dherī Hāritī image bears a date, year 399 (= c. A.D. 226, so CIInd II.1 p. 125 and K. W. DOBBINS, A Note on the Hāritī Image from Skārah Dherī, Year 399, E&W n. s. 17 [1967], 268—272). BIVAR is compelled to accept an alternative reading of 291 (= c. A.D. 136) and then uses this to support his theories on Kuṣāṇa chronology, see A. D. H. BIVAR, Hāritī and the Chronology of the Kuṣāṇas, BSOAS 33.1 (1970), 16—21. On the nature of this epidemic and its use in dating events in South Arabia see below n. 1112.

[693] For Choresmia in the Kuṣāṇa period see S. P. TOLSTOV, Drevnii Khorezm, 34—36, 102—127. In Ferghana some first century remains still exhibit considerable poverty; see, for example, the graves of the local agricultural population with very unimpressive inventories excavated near Sufan, N. G. GORBUNOVA, Sufanskii mogil'nik, AS 11 (1969), 90—91. In northern Bactria the period of Kaniṣka is marked by a considerable increase in building activity at most sites, see G. A. PUGACHENKOVA, K stratigrafii novykh monetnykh nakhodok iz Severnoi Baktrii, VDI (1967), 3.84—85.

[694] Suggested by R. GHIRSHMAN, CHM 3.3/4 (1957), 707—709, who argues on the basis of the signs of destruction or abandonment which he finds in the reign of Vasudeva I at Begram, Surkh Kotal, Qala-i Mir, Kai-Kobad, Tali-Barzou, and Airtam-Termez. But cf. A. MARICQ, in: Kaniṣka Papers, 191—192, who notes correctly that GHIRSHMAN misinterpreted the archaeological evidence from Soviet Central Asia and that apart from the Begram excavations there is no sign of destruction. There is, however, a general decline evident in some areas in the third and fourth centuries, but this cannot be closely tied to the end of the dynasty of Kaniṣka; e. g., the slow collapse of the Choresmian irrigation system, which according to TOLSTOV begins in the fourth century, S. P. TOLSTOV, Drevnii Khorezm, 47—53. The uppermost levels of the Shaikhan Dheri mound at Charsadda contain coins of Vasudeva and show signs that the site was in decline at this time, but the cause may well have been river flooding, so A. H. DANI, Ancient Pakistan 2 (1965/66), 23—24. At the Kuṣāṇa site of Sonkh, Mathura district, a thick level of burned debris spread over most of the site was reported to mark the end of the period of Kuṣāṇa occupation, see H. HAERTEL, Excavations at Sonkh (Mathura District), 1966—67, BMAUP 1 (1968), 5; IDEM, BMAUP 2 (1968), 5; cf. IDEM, BMAUP 5/6 (1970), 2 for a hoard of 120 Later Kuṣāṇa copper coins whose relationship to the burned layer is not specified. Another Kuṣāṇa city of considerable size has been found at Emschi (with remains also from the Greco-Bactrian period). The site also yielded a single Sasanian silver coin and signs of burning above the Kuṣāṇa layer; see I. KROUGLIKOVA and CH. MOUSTAMANDY, Résultats préliminaires des travaux de l'Expedition archéologique Afghano-Sovietique en 1969, Afghanistan 23.1 (1970), 90—95.

There is also a considerable body of evidence which suggests the continuation of Kuṣāṇa rule in Northwest India. For the coinage of rulers after Vasudeva I see L. BACHHOFER, Herrscher und Münzen der späten Kushanas, JAOS 56 (1936), 429—439; R. GÖBL, in: F. ALTHEIM and R. STIEHL, Finanzgeschichte der Spätantike, 216—221 (Vasudeva II only). J. E. VAN LOHUIZEN DE LEEUW, The 'Scythian' Period, 234—323 has argued that the Mathurā school of sculpture continued to flourish after Vasudeva. The theory is further refined by J. M. ROSENFELD, in: Kaniṣka Papers, 266—268, who has assembled the evience for the continued flourishing of Kuṣāṇa rule for at least another half century;

also IDEM, The Dynastic Arts of the Kushans, 270—273. The argument is primarily based on stylistic grounds and the assumption that the numeral 100 has been omitted from inscriptions dated from years 4 to 57 in which no ruler is mentioned. The weakness of such primarily stylistic arguments is pointed out by B. N. MUKHERJEE, Problems of Dated Images of the Mathura School of Sculpture of the Kushan Period, in: Proc. Dushanbe 2. 346—362. Cf. also W. B. HENNING, Warucan-Sah, JGIS 11.2 (1944), 87 who in piecing together the Manichaean account of the missionary activity of Mar Ammo in Pahlavi and Sogdian texts mentions a caption on the last page of the Sogdian text: *mr mw c nkw kws my p r* ("How Mar Ammo [came to] the frontier post of Kushan"). The tale refers to events of c. A.D. 265—270 and may, although it need not, indicate the continued survival of a Kuṣāṇa state south-west of Balkh (HENNING argues that the area is a Sasanian dependency, but this is based not on the text but rather on his interpretation of SKZ).

[695] The primary evidence is the trilingual inscription of Shapur I at Naqsh-i Rustam. Line 4 of the Greek text reads: 'Ινδίαν κα̣ὶ̣ Κ̣ο̣υσ̣ην[ῶν ἐθ]ν[η] ἕ̣ω̣ς ἔμπροσθεν Πασκιβούρων καὶ ἕως Κας, ... Line 2 of the Pahlavi text reads: *Kušnxštr xnprxš 'L Pškbvr* for the place name. See E. HONIGMANN and A. MARICQ, Recherches, 98—105; A. MARICQ, Classica et Orientalia: Res Gestae divi Saporis, Syria 35 (1958), 307, 350—352, Greek text and commentary (= IDEM, Classica et Orientalia [Paris 1965], 49, 92—94); cf. A. D. H. BIVAR, BSOAS 27 (1963), 499, n. 1. For Parthian *Pškbvr* as Peshawar see discussion by W. E. HENNING, Two Manichean Magical Texts, BSOAS 12 (1947), 53—54 and M. SPRENGLING, Third Century Iran, Sapor and Kartir (Chicago 1953), 67—68. The case for Peshawar is also argued by R. GHIRSHMAN, Bégram, 99—100. But the identification is rejected by J. E. VAN LOHUIZEN DE LEEUW, The 'Scythian' Period, 320; J. H. KRAMERS, Peshāwar, ABIA 15 (1940—1947), xvi—xxi; and A. MARICQ, Recherches, 105; cf. IDEM, Syria 35 (1958), 350—351 (= IDEM, Classica et Orientalia, 92—93). Further evidence for an early Sasanian conquest of the Kuṣāṇa territories in Bactria has been adduced from the cave monastery at Kara Tepe. HARMATTA has argued that the expulsion of the Buddhists from here and their replacement by a Zoroastrian fire-temple must be referred to in the famous inscriptions of Kartir. See J. HARMATTA, in: Buddiiskie peshchery Kara-Tepe, 120—124 and IDEM, Proc. Dushanbe, 331—332. (On the persecutions under Kartir see the inscriptions cited below p. 1058, n. 1708.) The date of the earliest Sasanian presence at Kara Tepe depends on the interpretation of a short Middle Persian inscription from the site which mentions a visit in the year 80. See V. G. LUKONIN, Srednepersidskie nadpisi iz Kara-Tepe, in: Buddiiskie peshchery Kara-Tepe, 40—46, who interprets the date as A.D. 269/270; cf. ibid., p. 46, n. 24, where a letter of HENNING is quoted indicating that he reads "year 60" and proposes a date of A.D. 264/65; cf. J. HARMATTA, ibid., 124—125, who reads "year 80" and understands the date as A.D. 286. Cf. also M. MITCHINER, NC 7, ser. 9 (1969), 303—304, who argues that the conquest of Kusanṣahr took place in stages under both Ardashir and Shapur. The suggestion is feasible but the evidence cited is not convincing. See also V. G. LUKONIN, Zavoevaniia Sasanidov na vostoke i problema Kushanskoi absoliutnoi chronologii, VDI (1969), 2.20—44, who minimizes the importance of the contemporary epigraphic record and prefers to date the Sasanian conquest of the Kuṣāṇas to the time of the Kuṣāṇo-Sasanian coins which he attributes to the fourth and fifth centuries; cf. IDEM, Kushano-Sasanidskie Monety, EV 18 (1967), 16—33 with an attribution of the coins to the periods 367—459 and c. 380—430/440. LUKONIN concludes that the final Sasanian conquest of the Kuṣāṇas did not occur until Ardashir II (A.D. 379—383). Cf. the earlier study of R. VASMER, Zur Münzkunde von Baktrien im 3. Jahrhundert n. Chr., ZfN 42 (1932), 24—58 who attributed the earliest Kuṣāṇo-Sasanian coins to Hormizd I whom he argues was a contemporary of Shapur I. See now R. FRYE, Napki Malka and the Kushano-Sasanians, in: D. K. KOUYMJIAN (ed.), Studies in Honor of George C. Miles, 118—122 who in a stimulating review of the literary, epigraphic and numismatic evidence rejects ZEIMAL's chronology, and suggests that Ardashir conquered a substantial part of the old Kuṣāṇa state, and that the Kuṣāṇo-Sasanian coins may be issues of overly powerful vassal princes in the period from Varahran II (276—293) to Yazdagird I (339—421) who took advantage of weakness at the centre to make their territories independent; cf.

IDEM, Sasanian Inscriptions and Kushan History, in: Proc. Dushanbe 2.151—152 where FRYE argues from Sasanian inscriptions (SKZ, NPi, SPs I) that between c. A.D. 260—293 the western portions of the Kuṣāṇa Empire were in a vassal relationship to the Sasanian Empire.

[696] The chief difference in the interpretation of the text for our purposes lies in the ascription by GHIRSHMAN of the eastern conquests mentioned in the Naqsh-i-Rustam inscription to Shapur I and MARICQ's belief that the conquests were those of Ardashir I. See R. GHIRSHMAN, Bégram, 99—100; IDEM, CHM 3.3/4 (1957), 703—706, and also W. ENSSLIN, Zu den Kriegen des Sassaniden Shapur I, SBAW (1947), no. 5.9—14; cf. A. MARICQ, Recherches, 106—107. R. N. FRYE, The Heritage of Persia, 240 suggests that under Ardashir the Kuṣāṇas were only vassals, while under Shapur the Kuṣāṇa domains were actually included in the Sasanian empire. An extensive eastern campaign of Ardashir I is briefly described by Tabari, who notes that at the end of it the king of the Kuṣāṇas sent an embassy announcing his submission to the Sasanian king; cf. T. NÖLDEKE, Geschichte der Perser und Araber zur Zeit der Sasaniden (Leiden 1879), 17. HARMATTA has approached the problem of the date of the conquest from the basis of the "unfinished inscription" from Surkh Kotal (H. HUMBACH, Baktrische Sprachdenkmäler, I. no. B.1 = KpI) in which he read the date as year 299 and found a mention of Vasudeva. Arguing that the ruler in question is Vasudeva II and that Surkh Kotal was destroyed by the Sasanians in the first year of his reign, he concluded after a study of the chronology of Ardashir's campaigns that these events took place in A.D. 233; see J. HARMATTA, AAntHung 13 (1965), 164—194. The interpretation of two drachms in the British Museum of a Peroz, thought by some to be identical with the like-named brother of Shapur I, is also of importance. The reverse bears the legend MLKA INDI (correction of E. HERZFELD, Kushano-Sassanian Coins, MémASI no. 38 [Calcutta 1930], 31). PARUCK has suggested the identification of Inde with Sind. See F. D. J. PARUCK, Observations on Five Sasanian Coins, JNSI 1 (1939), 58—61 (a revised version of a paper published in RN [1936], 71—86). MUKHERJEE has recently published a gold coin of Vasudeva on which the king wears a crown similar to that attested for Shapur I. He argues that this symbolizes Kuṣāṇa resistance to Sasanian rule, see B. N. MUKHERJEE, The Historical Significance of a Gold Coin of Vasudeva II, JNSI 36 (1974), 109—110. It may also be relevant to note that Indian elephants are not known to have made their appearance in Sasanian armies until the reign of Shapur II at the siege of Amida (A.D. 359, Ammianus XIX.2.3), cf. on use of elephants by the Sasanians A. TAFAZZOLI, Elephant: A Demonic Creature and a Symbol of Sovereignty, AcIr 2 ser. 2 (1975), 396—397.

[697] An affirmative answer is frequently given. The argument is often circular. See, for example, E. H. WARMINGTON, Commerce^{2}, 298—299; J. I. MILLER, Spice Trade, 234—235; B. N. MUKHERJEE, Nana on Lion, 79—82; R. GÖBL, in: F. ALTHEIM and R. STIEHL, Finanzgeschichte der Spätantike, 254—256; A. DANI and F. KHAN, Proc. Dushanbe, 97; see also A. SAMI, in: Proc. Dushanbe 2.150 who argues that East-West trade was a vital factor in the Kuṣāṇa economy and even goes so far as erroneously to interpret Kuṣāṇa relations with the Parthians and Sasanians in the light of such economic motives. Cf. J. HARMATTA, AAntHung 12 (1964), 15—21 who alone attempts to support his views by the citation of documentary evidence. HARMATTA discusses several Kharoṣṭhī inscriptions which he argues mention trade with China. The first, CIInd II. 1. 28, records the gift of a well by "the companions pursuing commerce in *Khu(ṃ)dani*". The toponyme *Khu(ṃ)dani* in this text and *Khudachieṇa* in CIInd II. 1. 76 is understood by HARMATTA as a reference to the Iranian name *Xundan* for the Chinese capital. But these results are achieved only by a considerable emendation of the readings presented by KONOW in CIInd and must thus be regarded as purely provisional.

[698] The agricultural basis of the cultures of the Tarim Basin is correctly emphasized by A. THORNER, Ancient Art and Modern Archaeology, in: O. LATTIMORE, Pivot of Asia (Boston 1950), 238. STEIN found numerous remains of orchards and gardens at some of the sites he explored. See M. A. STEIN, Ancient Khotan 1.126—131, 383—384; IDEM,

Innermost Asia, 2.568, 765—766; IDEM, Serindia, 1.131, 201—208, 238; IDEM, Ruins of Desert Cathay, 1.294; 2.356. See statements in the Chinese histories: HHS 77, cf. E. CHAVANNES, TP 2 ser. 7 (1906), 226 on fertility of Yarkand and Kachgar. For evidence of irrigation in the Kharoṣṭhī documents see: Kh. Inscr. nos. 72, 160, 368 and 604. No. 368 particularly shows the concern of the rulers of Kroraina for the maintenance of the irrigation system: (a letter from the king to *cozbo* Soṃjaka) "... the river has changed its course. There is no water for agriculture, shortage of water took place. Now the water shall be conducted back to their territory. If it is not possible for them in a few [days to conduct the water back to their territory, nor to accomplish the cultivation of the land, then they shall be sent to Saca] so that the people shall be written off (from the records): altogether (a unit) containing one hundred ..." See translation in J. HARMATTA, AAntHung 12 (1964), 386.

[699] For the irrigation of ancient Choresmia from the fourth century B.C. to the third century of our era see S. P. TOLSTOV, Drevnii Chorezm, 37—56. For results of 1951—1955 expeditions see S. P. TOLSTOV, Les résultats des travaux de l'expédition archéologique et éthnographique de l'Academie des Sciences de l'URSS au Khorezm en 1951—1955, RAA 4 (1957), 96—98 with aerial photograph of Qoy-Qrylgan-qala; cf. also 104—105 for the extensive wine storage facilities at the same site. An impressive system of irrigation canals has also been noticed about the fortified city site of Babich-moulla; see S. P. TOLSTOV, Les Scythes de l'Aral et le Khorezm, Iranica Antiqua 1 (1961), 58—60. Another small town with an irrigation system was found at Balandi, ibid., 64—66. By the middle of the first millennium B.C. irrigation was well developed at various sites in Margiana, e. g., Iaz Tepe, Dashly and Arabali-Tepe, see V. M. MASSON, Drevnezemledel'cheskaia kul'tura Margiany, 63—92.

[700] The evidence of the development of extensive irrigation agriculture in the Kuṣāṇa period is particularly abundant. See the survey in IA. G. GULIAMOV, Kushanskoe Tsarstvo i drevniaia irrigatsiia Srednei Azii, in: Proc. Dushanbe, 120—121. For irrigation in this period in Ferghana see the survey in B. A. LATYNIN, Voprosy istorii irrigatsii drevnei Fergany, KSIIMK 64 (1956), 18—26 (who discusses in detail the techniques used in terminal oases); also IDEM, Raboty v raione proekiruemoi elektrostantsii na reke Naryne v Fergane, IGAIMK 110 (1939), 123 (on the irrigation system in the Uch-kurgan and Kyzyl-Iar plains); IDEM, Nekotorye itogi raboty Ferganskoi ekspeditsii 1934 goda, AS 3 (1961), 130—133 (the same in greater detail with discussion of the date). The most well studied area of ancient irrigation, thanks largely to the work of S. P. TOLSTOV (see above), is ancient Choresmia. See S. P. TOLSTOV, Drevnii Chorezm, 43—52 on development of the Choresmian system in the period from the fourth century B.C. to the third century of our era. For the result of subsequent surveys and excavations see IDEM, Arkheologicheskie raboty Khorezmskoi ekspeditsii AN SSSR v 1952 g., VDI (1953), 2.180 (for the Kuṣāṇa irrigation system near the modern Chermen-iab canal); S. P. TOLSTOV and B. V. ANDRIANOV, Novye materialy po istorii razvitiia irrigatsii v Chorezme, KSIE 26 (1957), 8—10. In Sogdiana a Kuṣāṇa date has been suggested for the Iski-Angar canal in A. I. TERENOZHKIN, Arkheologicheskaia rekognostsirovka v zapadnoi chasti Uzbekistana, VDI (1947), 2.185—186, but this is rejected by S. K. KABANOV, Arkheologicheskie nablydeniia na stroitel'stve Iski-Angarskogo kanala, IMKUz 1 (1959), 172—173.

Pastoral nomadism also survived in Central Asia side by side with irrigation agriculture (as it did in the Tarim Basin — see above — and in the Fertile Crescent — see below p. 839, n. 777). In the Bukhara Oasis the kurgans of such peoples have been excavated at Kyzyl-Tepe, Khazara, Shakhri-Vairon, Kuy-Mazar, and Liavandak; see the summary of these excavations in O. V. OBEL'CHENKO, Kurgannye mogil'niki epokhi Kushan v Bukharskom Oazise, in: Proc. Dushanbe, 202—203.

For the possibility of attributing some of the remains of irrigation systems in the Indus Valley to the Kuṣāṇas see A. DANI and F. KHAN, in: Proc. Dushanbe, 102. A. H. DANI, Sanghao Cave Excavation: The First Season 1963, Ancient Pakistan 1 (1964), 4—5 reported that on the hillsides near the cave channels to guide the flow of water from one field to another were noted (pl. III.b). DANI assigns these virtually undatable remains to the

"Buddhist period," but in 'Proc. Dushanbe' he suggests that these are from the Kuṣāṇa period. The literary evidence for ancient Indian irrigation in both the Northwest and the Northeast is assembled in M. AQUIQUE, Economic History of Mithila (c. 600 B.C.—A.D. 1097) (New Delhi 1974), 87—91 and S. K. MAITY, Economic Life in Northern India in the Gupta Period (Cir. A.D. 300—550) (Delhi 1970), 115—119. The epigraphic evidence for the most extensive irrigation scheme during the period contemporary with the Kuṣāṇas comes from the Junagadh rock inscription of Rudradāman (cf. date above p. 754, n. 475); see F. KIELHORN, Junagadh Rock Inscription of Rudradāman, Year 72, EpInd 8 (1905—1906), 36—49. The text records how the large dam built by the Mauryas to hold back artificial Lake Sudarśana had burst and was rebuilt at great expense by Rudradāman. In the fifth century the dam burst again and was repaired by a Gupta governor, cf. CIInd, III. no. 14. L. GOPAL, Irrigation-tax in Ancient India, IHQ 38.1 (1962), 67—68.

Akin to the development of irrigation is concern for the provision of wells, cisterns, and aqueducts for Buddhist monasteries and other religious centres. The recording of the excavation of a well and the provision of water for the monastery is in part the purpose of the great Surkh Kotal inscription (see above n. 686). See particularly W. B. HENNING, BSOAS 23.1 (1960), 53—54, by whose interpretation the abandonment of the sanctuary came about as the result of the breakdown of the water supply, and J. HARMATTA, AAntHung 12 (1964), 382—389, who cites parallels in other Kharoṣṭhī inscriptions. The dedication of a well is mentioned in the Ara inscription (CIInd II.85 — see above n. 675). A further early Brāhmī text of a similar nature from the Kuṣāṇa period is published by R. C. SHARMA, New Inscription from Mathura, BMAUP 8 (1971), 24—29. For the size and prominence of wells and cisterns at Buddhist monasteries see J. MARSHALL, Taxila, 1.322 (Kalawan) and 368 (Jaulian). — The Indian evidence from the Kuṣāṇa period appears insignificant when compared with the documentary material from the medieval period. See the massive works mentioned in the Dewal inscription of the tenth century and the Hatun rock inscription, G. BÜHLER, The Dewal or Illahabas Prasasti of Lalla the Chhinda, EpInd 1 (1884—1892), 75—85 and N. P. CHAKRAVARTI, Hatun Rock Inscription of Paṭoladeva, EpInd 30 (1953—1954), 226—231. Cf. the literary and epigraphic evidence collected in B. D. CHATTOPADHYAYA, Irrigation in Early Medieval Rajasthan, JESHO 16 (1973), 301—316.

None of this, however, need mean that some trade did not go on. Perhaps the most likely hypothesis for the Kuṣāṇa Empire is that proposed by VAN LEUR for Southeast Asia: that trade was carried on by pedlars of relatively low social status who were financed by landed aristocrats; see J. C. VAN LEUR, Indonesian Trade and Society, 66—67 and W. F. WERTHEIM, Early Asian Trade. An Appreciation of J. C. van Leur, FEQ 13.2 (1954), 169. Such a suggestion is supported by the evidence of the Sogdian letters cited above (n. 636). It is thus most likely that commercial and 'industrial' ventures were financed by the ruling landed aristocracy from the surplus cash earned in agriculture and that such investments (probably together with money-lending) were relatively insignificant and incidental for those who made them. A single Brāhmī inscription of the Kuṣāṇa period mentions a *sarthavaha* or caravan leader; see LÜDERS, Brahmi Inscr. no. 30 (from Mathura) with commentary in B. N. PURI, Some Aspects of Economic Life in the Kuṣāṇa Period, IC 12.1 (1945), 84 and IDEM, Economic Guilds in the Kuṣāṇa Period, IC 6.4 (1940), 423. In the non-Indian portions of the Kuṣāṇa Empire where neither documentary nor literary evidence exists we are forced to rely exclusively on archaeology. This evidence of glass production has been found at a number of sites, see above n. 400. For pottery production see G. A. PUGACHENKOVA, Keramicheskie pechi kushanskogo vremeni v Iuzhnom Uzbekistane, SA (1973), 2.205—215 who studies kilns excavated at Dalverzin-Tepe, Airtam, Khatyn-Rabat and Saksanokhur. The need for further work on the ancient economy of Sogdiana is stressed in the general survey of O. I. SMIRNOVA, Sogd (K istorii izucheniia strany i o zadachakh ee issledovaniia), PalSb 21 (1970), 131—132.

[701] For Western imports found within the probable frontiers of the Kuṣāṇa Empire see above p. 759, n. 494.

[702] The major source for the art of the Tarim Basin are the reports of SIR AUREL STEIN's three expeditions. See, for example: Ancient Khotan, 1.212—221 (terracottas and sculpture from Yotkan); 252—260 (reliefs and paintings from Dan-Dan-Uiliq); IDEM, Innermost Asia, 1.241—242 (woollen tapestries from Lou-lan site L.C.); IDEM, Serindia, 1.110, 114 (terracottas from Yotkan); 226 (wood carving from Niya site); 231 (seals from Niya site); 395—398, 447—448 (wooden carvings from site L.B. near Lou-lan); 488—545 (sculpture and painted friezes from Miran *stupas*); 3.1188—1195 (reliefs and frescoes from the shrines at Ming-oi north of Shor-chuq); 1252 (mural painting from Farhad-Beg-Yailaki); 1277 (frescoes from shrine at Tarishlak). The paintings and frescoes found by STEIN are republished by F. H. ANDREWS, Catalogue of Wall-Paintings from Ancient Shrines in Central Asia and Seistan, recovered by Sir Aurel Stein (Delhi 1933); IDEM, Wall-Paintings from Ancient Shrines in Central Asia recovered by Sir Aurel Stein (London 1948). See also M. BUSSAGLI, Painting in Central Asia (Geneva 1963) 18—29, 52—114 and specifically on Khotanese painting see J. WILLIAMS, E&W n. s. 23.1/2 (1973), 109—154. For the finds of the four German expeditions to the Tarim Basin see A. VON LE COQ, Die Buddhistische Spätantike in Mittelasien (Berlin 1922), 21—29 (stucco and wood sculpture from Tumshuq, Kyzil, Murtuq, Chotsho, Shor-chuq, and Kum-Tura — much of the material is from the fourth century or later); also A. VON LE COQ, Von Land und Leuten in Ostturkistan: Berichte und Abenteuer der 4. Deutschen Turfanexpedition (Leipzig 1928), 58—78 (temples at Ming-oi near Kyzil); 108—112 (a brief description of the temples at Atchigh-Ilak); 113—118 (excavation of temples at Sim-Sim); 119—121 (excavation in the monastery of Kum-Aryk); 136—139 (remains at Kum-Tura). The Hermitage collection of Khotanese terracottas and stuccos, brought back by Russian Central Asian travellers of the previous century, has been published by N. V. D'IAKONOVA and S. S. SOROKII, Khotanskie Drevnosti (Leningrad 1960). For the results of a French expedition to the area see J. HACKIN, Recherches archéologiques en Asie Centrale (1931) (Paris 1936), 9—25 (caves at Bazaklik).

[703] Such theories are found, for example, in M. BUSSAGLI, Painting in Central Asia, 11. It is, however, true that most of the material comes from the third and fourth centuries or later, when there is more evidence than in the earlier period for the passage of men and goods across this region (see above n. 620 and below p. 1072, n. 1757).

[704] A Kharoṣṭhī inscription of an artist Tita has been found on the third- and fourth-century wall paintings at Miran shrine. M. V. BOYER read the text as *titasa esạ̄ ghali hastakrica [bhaṃma]ka 3 1000*, i. e., "This fresco [the work] of Tita, who has received 3,000 Bhammakas [for it]." Cf. M. A. STEIN, Serindia, 1.530. The very Western appearance of the murals led STEIN to suggest that Tita was the Indian rendering of the Roman name Titus; see, for the inscription and the murals, M. A. STEIN, Serindia, 1.526—538; IDEM, Ruins of Desert Cathay, 1.491—492; M. BUSSAGLI, Painting of Central Asia, plates on pp. 22—25 (who believes he can see the hand of the same artist in works from Hoti Mardan!). STEIN's interpretation is accepted by W. SAMOLIN, Ethnographic Aspects of the Archaeology of the Tarim Basin, CAJ 4.1 (1958), 49; cf. n. 19, where he raises the possibility that this is a Roman from DUBS' 'Roman City in China' (on which see Appendix I). But the movement of artists was not the only possibility. Much of the Buddhist stone sculpture was mass-produced from moulds and it is possible that these could be transported over considerable distances. For one such mould from Shor-chuq see A. VON LE COQ, Die Buddhistische Spätantike in Mittelasien, 12; and also M. A. STEIN, Serindia, 3.1193—1194.

[705] For the origins of the Western elements in Gandhara art see above pp. 632—633. The relationship of the sculpture and paintings from Eastern Turkestan to the abundant similar remains in Northwest India can be studied in the plates of the works listed above n. 102. The emphasis on the use of stucco found in the sculpture of the Tarim Basin Buddhist establishments reflects contemporary taste in Gupta India and in late Gandhara art as well as in Iran, see M. CHANDRA, A Study in the Terracottas from Mirpurkhas, BPWM 7 (1959/62), 3—5 and the finds from the renewed excavations at Hadda, S. MUSTAMANDI, Preliminary Report on Hadda's Fifth Excavation Period, Afghanistan 24.2/3 (1971),

131—137. The use of stucco for decorative purposes is well attested in the Parthian and Sasanian cites of Mesopotamia and Iran, see H. J. LENZEN, Architektur der Partherzeit in Mesopotamien, in: G. BRUNS (ed.), Festschrift für Carl Weickert (Berlin 1955), 132—133; and also more rarely in highland Iran, see D. T. RICE, The Cave of Shapur and Sasanian Painting, BII 6.1/4, 7.1 (1946), 30; in the Sasanian palace at Firuzabad, D. HUFF, Qal'a ye Dukhtar bei Firuzabad, AMI N.F. 4 (1971), 139—140, 167; in the small Parthian palace above Rabat-i Sefid (Khorasan), AMI N.F. 8 (1975), 155—161; from the Sasanian palace at Chal Tarkhan-Eshqabad, see D. THOMPSON, A Fragmentary Stucco Plaque in the Royal Ontario Museum, in: D. K. KOUYMJIAN (ed.), Near Eastern Numismatics, Iconography, Epigraphy and History, Studies in Honor of George C. Miles (Beirut 1974), 83—96.

[706] Direct contact with the Roman Empire is suggested by M. A. STEIN, Innermost Asia, 1.243. The path by which such influence travelled can be traced by the discovery of remarkable wall-paintings which show the influence of the Gandhara style at the Sogdian city of Pendzhikent. See A. M. BELENITSKII, in: Trudy Tadzhikskoi arkheologicheskoi ekspeditsii, MIA no. 66 (Moscow/Leningrad 1958), 143—149, pls. 44—50 (sixth to eighth centuries); IDEM, O nekotorykh siuzhetakh Piandzhikentskoi zhivopisi, KSIIMK 61 (1956), 56—62, pls. 9—11. For the relationship with the remains of wall-paintings from the Sogdian site of Mug see B. IA. STAVISKII, O dvukh pamiatnikakh Sogdiiskogo izobrazitel'nogo iskusstva, ibid., 63—64, pl. 12; cf. A. M. BELENITSKII, K istorii kul'turnykh sviazei Srednei Azii i Indii v rannee srednevekov'e, in: Indiia v Drevnosti, 188—198 who while discussing the Indian influence evident in artistic remains from Pendzhikent and Varakhsha of the sixth to eighth centuries notes that in part this mixture of various elements originated already in the Kuṣāṇa period (ibid., 195—196). See also A. C. SOPER, Northern Liang and Northern Wei in Kansu, Artibus Asiae 21 (1958), 131—164 who argues that many Western motifs were introduced into the Buddhist art of Northern China in the first half of the fifth century when the rulers of the Northern Liang dynasty, major patrons of Buddhism, secured control of portions of Kansu and the eastern part of the Tarim Basin.

[707] M. A. STEIN, Ancient Khotan, 354—355, N.V. xv. 24, pl. LXXI; the identical seal is also used on N.V. xv. 307, N.I. i.17: the sealing on tablet N.V. xv. 137, pl. LXXI, is of the same type but from a less carefully made intaglio; the sealing on N.V. xv. 166, pl. LXXII, is also of the same type, but far less carefully engraved.

[708] The sealings are all from official documents written in Kharoṣṭhī. For example, N.I. i.17 was used on Kh. Inscr. no. 15, which mentions various orders about administrative arrangements; N.V. xv. 24 was found on Kh. Inscr. no. 35, which conveys orders from the king of Kroraina; N.V. xv. 166 was attached to no. 331, a contract which includes the statement "This is the seal of the *kala* Puṃnabala". Cf. T. BURROW, Translation, no. 331. That the inscriptions on the seals were added at a later date and not in their place of manufacture is a possibility which cannot be completely rejected in the light of the discovery of a gem in Iran which bears a portrait of Tiberius and a third century Pahlavi inscription, see H. SEYRIG, Un portrait de Tibère, RN 6 ser. 10 (1968), 175—178. I shall return to the subject of these sealings elsewhere.

[709] The type is mislabelled by STEIN as *Promachos* — a common confusion, see A. B. BRETT, Athena ΑΛΚΙΔΗΜΟΣ of Pella, ANSMN 4 (1950), 55—72. For the prevalance of this as an Indo-Greek reverse type see PMC I. nos. 254—292 (Euthydemus II); 355—362 (Strato I); 371 (Polyxenus); 373—478 (Menander); 516 (Epander); 526—539 (Zoilus); 550 (Apollophanus); 637 (Amyntas); A. K. NARAIN, Coin Types of the Indo-Greek kings, JNSI 16.2 (1954), 307—308, 310—312, 321—322, 324—325, 329.; H. K. PRASAD, Indo-Greek Coins of the Patna Museum, INC 2.2 (1961), 252—263, nos. 46, 53—62, 64—71. For same reverse type on coins of Azes I and Azilises and, with some modifications, Azes II, see G. K. JENKINS, Azes and Taxila, Actes, Congrès Int. de Numis. (Paris 1957), 2. 125—127, who attributes the type to the mint at Taxila; cf. G. K. JENKINS, JNSI 17.2 (1955), 3—8 contra W. W. TARN, GBI², 326 and J. MARSHALL, Taxila, 2.781; cf. U. THAKUR, Early Indian Mints, JESHO 16 (1973), 277—280. For the same type on issues of Śaka ruler Rajuvula

from Mathurā see B. LAHIRI, Typological Study of the Local Coins of Northern India, in A. K. NARAIN, Seminar Papers, 42; on whom see J. F. FLEET, JRAS (1907), 1026—1029; for date see B. N. MUKHERJEE, An Agrippan Source, 146 n. 226; 179—180 nn. 42—43. Similar seals have also been found in excavations at Rajghat see K. DEVA, Coin Devices on Rajghat Seals, JNSI 3 (1941), 73—75, and K. K. THAPLYAL, Greek Devices on Some Rajghat Sealings: A Review, JNSI 31.2 (1969), 135—139; cf. R. B. WHITEHEAD, Notes on Indo-Greeks, II, NC 6 ser. 7 (1947), 37, who attributes the seals to merchant guilds of the Gupta period. A seal of unknown provenance with Athena Alkidemos and a Kharoṣṭhī inscription naming its owner as Guduharasa (Gondophares) is mentioned by B. N. MUKHERJEE, An Agrippan Source, 252—253; published since by S. N. CHATURVEDI, A Sealing of Gondophares, JNSI 31.2 (1969), 140—142, pl. I. Athena Alkidemos also appears on the reverse of a copper coin in the British Museum which has been attributed to Kujula Kadphises, see B. N. MUKHERJEE, An Agrippan Source, 228—229 n. 3; 252; pl. III.18. The coins of Menander are the most important. They remained in circulation for several centuries (Periplus c. 47, cited below p. 1030, n. 1556). The hoard evidence indicates that they were struck in large numbers and circulated widely. In the Bajaur Hoard of 1942 (800—1000 coins) 91 of the 120 coins examined belonged to Menander, see H. L. HAUGHTON, Notes on Greek and Kushan Coins from N. W. India, NC 6 ser. 6 (1946), 141 = IGCH, no. 1846; also A. CUNNINGHAM, The Coins of Alexander's Successors in the East, NC n. s. 12 (1872), 158—169, who describes a hoard from Sonipat buried in the first century B.C. which contained 564 hemidrachms of Menander = IGCH, no. 1854. The continued popularity of this representation of Athena Alkidemos is also suggested by a statuette in the Lahore Museum (no. 7), frequently identified as Pallas Athena or Roma. See H. INGHOLT, Gandharan Art in Pakistan (New York 1957), 168—169 no. 443, pl. 443 (height $32^{3}/_{4}''$). The helmeted figure holds a spear in her raised left hand (broken) and enough of the broken right arm remains to indicate that it was held out in a horizontal position. The survival of a cult of Athena in some form is also suggested by the very considerable sculptural remains from Khalchaian, see G. A. PUGACHENKOVA, Khalchaianskaia Afina, VDI (1963), 2.155—168, esp. 159—161 on the numismatic evidence; IDEM, La sculpture de Khaltchayan, Iranica Antiqua 5 (1965), 123.

[710] Such a connection is suggested by M. A. STEIN, Ancient Khotan, 1.357; also K. K. THAPLYAL, JNSI 31 (1969), 136—139, who hypothesizes that the sealings came from the correspondence of Roman merchants resident in India and Central Asia.: K. K. THAPLYAL, Coin Devices on Clay Lumps, in: D. C. SIRCAR (ed.), Early Indian Indigenous Coins (Calcutta 1970), 127.

[711] It is frequently assumed that the collapse of irrigation agriculture is a result of a paralysis of centralized government control, which is judged to be the necessary prerequisite for the development of this economic form; G. FRUMKIN, Archaeology in Soviet Central Asia, V. The Deltas of the Oxus and Jaxartes: Khorezm and its Borderlands, CAR 13 (1965), 82, and in detail S. P. TOLSTOV, Drevnii Khorezm, 43—51, who with ideological purity describes the Kuṣāṇa period, when the irrigation systems of Choresmia reached their highest development, as an era of state centralization and slaveholding. The collapse of the system is said to be the result of the political fragmentation and feudalization of the Afrigid period. An interesting challenge to the general tendency of such theses is posed by TWITCHETT's study of the documentary evidence for irrigation around T'un-huang in the T'ang period. TWITCHETT concludes that irrigation policy was formulated and carried out at the local level and sometimes even privately; see D. TWITCHETT, Some Remarks on Irrigation under the T'ang, TP 2 ser. 48 (1960), 175—194.
There are in fact few known sites of the Kuṣāṇo-Sasanian period and this itself may suggest a decline in population. A cemetery attributed to this period has been excavated at Said Qala Tepe but it is most uncertain if the poverty of the grave offerings is indicative of a more general decline, see J. G. SHAFFER and M. A. HOFFMAN, The Kushano-Sasanian Cemetery, Afghanistan 24.2/3 (1971), 138—166. The stratified excavations in the cave at Shamshir Ghar have produced an unusually thick Kuṣāṇo-Sasanian level which the excavator attributes to political refugees whom he suggests used the cave for shelter,

see L. Dupree, Shamshir Ghar: Historic Cave Site in Kandahar Province, Afghanistan, APAMNH 46.2 (1958), 286—287. Cf. the cautionary remarks against giving too much historical weight to the stratigraphy here in P. Kalb, Rote Glattstreifen-Keramik in Afghanistan, AMI N. F. 6 (1973), 269—271. In northern Bactria the reign of Vasudeva I is marked at most Kuṣāṇa sites by decline or abandonment, see G. A. Pugachenkova, VDI (1967), 3.87.

[712] The diminished level of imports from the Mediterranean region can be seen in the list above p. 759, n. 494.

[713] See, for example, W. H. Schoff, Proc. Num. & Ant. Soc. of Philadelphia (1913), 56; G. F. Hudson, Europe and China, 82—87; C. P. Fitzgerald, China², 197—200; G. F. Hourani, Arab Seafaring (Princeton 1951), 14—15; M. A. R. Colledge, The Parthians, 80; Ying-Shih Yü, Trade and Expansion, 157.

[714] For the origins of the Parthians see N. C. Debevoise, A Political History of Parthia (Chicago 1938), 1—18; M. A. R. Colledge, The Parthians, 24—28; J. Wolski, Decay of the Iranian Empire of the Seleucids and the Chronology of the Parthians' Beginnings, Berytus 12 (1956), 35—52; G. A. Koshelenko, Nekotorye voprosy istorii rannei Parfii, VDI (1968), 1.53—68.

[715] On the early conquests of the Parthians and their semi-nomadic origins see N. C. Debevoise, A Political History of Parthia, 8—19; J. Neusner, Parthian Political Ideology, Iranica Antiqua, 3.1 (1963), 40—50.

[716] On the conquests of Mithridates II and his wars against the rival claimant to the throne, Gotarzes, see N. C. Debevoise, A Political History of Parthia, 40—50; A. N. Simonetta, E & W n.s. 9 (1958), 164—165; B. N. Mukherjee, An Agrippan Source, 72—73, 153—156 n. 264. The date given in the above accounts for Sulla's command in Cilicia and intervention (92 B. C.) should now be altered to 96 B. C.; see E. Badian, Sulla's Cilician Command, in: Studies in Greek and Roman History (Oxford 1968), 157—178. Cf. Th. Liebmann-Frankfort, Les étapes de l'intégration de la Cappadoce dans l'Empire Romain, in: Hommages à Claire Préaux, 420. In general on Roman relations with Parthia during the late Republic see J. Dobiáš, Les premiers rapports des Romains avec les Parthes et l'occupation de la Syrie, ArchOr 3.2 (1931), 215—256.

[717] On the Parthian dynastic struggles of the first century see N. C. Debevoise, A Political History of Parthia, 143—178; U. Kahrstedt, Artabanos III und seine Erben (Bern 1950), passim; B. Simonetta, Note di Numismatica Partica: Vonone II, Vologese I e Vardane II, RIN 6 ser. 60 (1958), 3—10; D. G. Sellwood, A Die-Engraver Sequence for Later Parthian Drachms, NC 7 ser. 7 (1967), 13—28. G. A. Koshelenko, Vnutripoliticheskaia bor'ba v Parfii, VDI (1963), 3.56—68. Striking testimony to the consequences of such a long period of internal upheaval is found in Pliny NH VI.112: *Regna Parthorum duodeviginti sunt omnia; ita enim dividunt provincias circa duo, ut diximus, maria, Rubrum a meridie, Hyrcanium a septentrione. ex his XI quae superiora dicuntur incipiunt a confinio Armeniae Caspiisque litoribus, pertinent ad Scythas, cum quibus ex aequo degunt. Reliqua VII regna inferiora appellantur.*

[718] For history of Characene and its coinage see U. Kahrstedt, Artabanos III, 52—58 (on the expansion of the kingdom in the early first century of our era); S. A. Nodelman, Berytus 13.2 (1959/60), 83—121; and especially on the coinage of Characene see G. Le Rider, Monnaies de Characène, Syria 36 (1959), 229—240, who publishes coins in bronze (nos. 1—20), in lead (nos. 21—29), and tetradrachms (nos. 30—37) found at Susa; also pp. 240—246 a hoard of 507 coins from Basra of which 57 (all tetradrachms) belonged to the kings of Characene (Tiraius II, 54; Artabazus, 1; Attambelus I, 2). See also G. Le Rider, Suse sous les Séleucides et les Parthes (Paris 1965), 407—408, 431—432, 449—450.

[719] The vassalage of Persis to the Arsacids was at best nominal and intermittent. See Strabo XV. 3.24: νῦν δ' ἤδη καθ' αὑτοὺς συνεστῶτες οἱ Πέρσαι βασιλέας ἔχουσιν ὑπηκόους ἑτέροις βασιλεῦσι, πρότερον μὲν Μακεδόσι, νῦν δὲ Παρθυαίοις. In the Periplus c. 33

Persis appears to be an independent kingdom. The dynasty of Persis is known virtually only from its coins. The names of the kings are Iranian and the religion apparently Zoroastrian. On the origins of the dynasty of the *Frataraka* and the date of its founding see E. Herzfeld, Archaeological History of Iran (London 1935), 45—46 with a date early in the third century; cf. F. Altheim, Geschichte der Hunnen, 1.378—379 with a much lower date of 165—163 B.C. and F. Altheim and R. Stiehl, Geschichte Mittelasiens im Altertum, 504—505: Persis becomes a Parthian vassal kingdom c. 140 B.C.. For the coins of Persis see BMC, Arabia, Mesopotamia and Persia, pp. 195—244, pl. XXVIII.7—XXXVII. 19; M. J. de Morgan, Note sur la succession des Princes Mazdéens de la Perside, CRAI (1920), 132—140. Three further silver coins in the Bern collection are published by B. Kapossy, Mittelasiatische Münzen im Bernischen Historischen Museum. Achämeniden, Parther, Persis, Elymais, JBHMB 47/48 (1967/68), 84. 94 nos. 814—816. Bronze coins of these rulers are also known, cf. F. D. J. Paruck, Three Bronze Coins of Persis, JNSI 1 (1939), 56—57, who publishes bronze coins of Autophradates I, Darius I, and Artaxerxes II. A break in these issues has been proposed in the early first century when Persis briefly came under direct Parthian rule; see BMC, Arabia, Mesopotamia and Persia, p. CLXXIV; cf. the earlier date in M. Rostovtzeff, The Sarmatae and Parthians, in: CAH XI. 118 n. 1 (under Orodes and Phraates IV); U. Kahrstedt, Artabanos III, 38—39 places the period of direct Parthian rule in the reign of Artabanus III. The later history of Persis is almost totally obscured. The 'Chronicle of Arbela' reports that the Parthians fought the Persians already in the reign of Vologeses IV; see E. Sachau, Die Chronik von Arbela (Berlin 1915), 56, 60—61. W. W. Tarn, GBI², 484—485 has hypothesized that there existed in the second and first centuries B.C. a kingdom of Harmosia in the area of Hormuz. This, Tarn argued, was a major intermediate port on the route to India in the Hellenistic period. The only real evidence cited is a bronze coin of a king Bellaios in the British Museum with the prow of a war-galley on the reverse. On this see H. Hill, NC 5 ser. 8 (1928), 15 no. 41. A possible further badly struck example was found in the Nisibis hoard of 1955, which was buried after 31 B.C. See H. Seyrig, Trésor monétaire de Nisibe, RN 5 ser. 17 (1955), p. 89 no. 17, p. 108 = IGCH no. 1788. It is impossible to accept the existence of such a kingdom on the basis of this coin alone; cf. a coin with a ship's prow reverse type bearing the name of king Apoducos of Characene which was found at Susa, G. Le Rider, Syria 36 (1959), p. 23 no. 5.

[720] Strabo XVI. 1.18 notes that the Elymaeans were ruled by a king, that they were numerous and powerful, and that they resisted unsuccessfully the efforts of Mithridates I to rob the rich treasures of the temples of Athena and Artemis. He notes further that the Elymaeans successfully resisted Parthian rule: πολλὴ δὲ οὖσα πολὺ καὶ τὸ στρατιωτικὸν παρέχεται, ὥστε καὶ ὁ βασιλεὺς αὐτῶν δύναμιν κεκτημένος μεγάλην οὐκ ἀξιοῖ τῷ τῶν Παρθυαίων βασιλεῖ παραπλησίως τοῖς ἄλλοις ὑπήκοος εἶναι· cf. XV. 3.12 noting that in his own day the Elymaeans and their neighbours were subjects of the Parthians. Cf. G. Le Rider, Suse, 353—357, 370—371. Our main evidence for the existence of this kingdom from the second century B.C. onward is its coins. See the pioneering study of A. de la Fuÿe, Les Monnaies de l'Elymaide, RN 4 ser. 22 (1919), 45—84. BMC, Arabia, Mesopotamia and Persia, pp. 245—288, pls. XXXVIII.I—XLII.25. The first series of coins which bear dates in the Seleucid era and Greek legends come to an end in the middle of the first century of the Christian era. There follows a series of kings who issue undated coins with Aramaic legends. The excavations of Susa have yielded 84 bronze issues (16 possibly are imitations) of Kamnaskires I of Elymais, suggesting that for a time he may have controlled the city; see G. le Rider, Suse, 76—78 nos. 86—94, pp. 349—351, 357—358, 360—361, 368—372, who suggests 147—140 B.C. A further new Elymaite coin, possibly of the first century of our era, has recently been published by M. R. Zamir-Dahncke, Eine unbekannte Elymaïsche Münze, AMI N.F. 8 (1975), 141—142. For the 102 coins of Elymais in the Bern collection see B. Kapossy, JBHMB 47/48 (1967/68), 85—87, 94.

For inscriptions and reliefs depicting the investiture of the king of Elymais from Tang-i Sarvak in the centre of ancient Elymais, see W. B. Henning, The Monuments and Inscriptions of Tang-i Sarvak, AM 2 (1952), 151—178; cf. F. Altheim and R. Stiehl, Supplementum Aramaicum (1957), 90—97. A. D. H. Bivar and S. Shaked, The Inscriptions at Shimbar, BSOAS 27 (1964), 265—287 publish inscriptions and sculptures of the first and second century of our era at Tang-i Butan and ink graffiti at Pul-i Nagin and Tang -i Chilan, all in the Shimbar Valley region, apparently from the same period as the Tang-i Sarvak monuments; cf. on five Aramaic inscriptions from Tang-i Butan M. Sznycer, Les inscriptions araméennes de Tang-i Butan, JA 253 (1965), 1—9 and J. Teixidor, Bulletin d'épigraphie sémitique, Syria 44 (1967), 181—183 (who discusses the meaning of the texts). J. P. Guepin, A Contribution to the Location of Ta Azara, the Chief Sanctuary of Elymais, Persica 2 (1965/66), 24—26, reports seeing from the air at Khoda Tsharan near Tang-i Sarvak the remains of a large group of temples which he suggests may be one of the legendary sanctuaries of Elymais. Henning suggests that the inscriptions and reliefs at Tang-i Sarvak come from the last rulers of Elymais in the late second century; W. B. Henning, AM 2 (1952), 175—176, cf. 178 n. 2. For the reliefs see also H. v. Gall, Entwicklung und Gestalt des Thrones m Vorislamischen Iran, AMI N. F. 4 (1971), 208—211 and H. Seyrig, Antiquités syriennes 90: Sur un bas-relief de Tang-i Sarvak, Syria 47 (1970), 113—116 (describing the relief as an investiture scene). Ruins of a temple complex of the same period have also been found at Mehernan, see K. Schippmann, Notizen zu einer Reise in den Bachtiaribergen, AMI N. F. 3 (1970), 233—234.

Further evidence for the history of Elymais will no doubt come from recent excavations at Masjid-i Solaiman; see R. Ghirshman, La terrasse sacrée de Masjid-i Solaimon (Iran). Campagne de 1970, CRAI (1970), 653—665; Idem, Masjid-i Solaiman ou mosquée de Salomon, Campagne de fouilles dans les montagnes des Bakhtiari (Iran) au printemps 1967, CRAI (1968), 8—15; Idem, La terrasse sacrée de Masjid-i Solaiman (Iran), CRAI (1969), 482—494 and Idem, Notes iraniennes XVII: Un bas-relief Parthe de la Collection Foroughi, Artibus Asiae 37.3 (1975), 231—232; for earlier work at the site see M. Siroux, Masdjid-é Sulaiman, Āthār-é Iran 3 (1938), 157—160. The nearby sanctuary of Badr-i Neshande has also yielded sculpture and reliefs from the period when the kingdom of Elymais existed; see first A. Godard, Āthār-é Iran 4 (1949), 153—162; and for the French excavations there see R. Ghirshman, Bard-è Nechandeh, Syria 41 (1964), 301—321; Idem, Syria 42 (1965), 289—310.

[721] Susiana was never a vassal kingdom like the other states in the list but at various stages in its history it was united with the kingdom of Elymais. For the conquest of the city of Susa by Mithridates I see G. Le Rider, Suse, 370—371, 374—376. For the growing commercial importance of the city in the first century B.C. as reflected in the finds of bronze issues of the mint of Seleucia on the Tigris see ibid., 405—407. See also the bronze coins from Characene found at Susa, G. Le Rider, Syria 36 (1959), 229—240; Idem, Suse, 407—408. The history of the city under Parthian rule and the bronze municipal coinage of its mint are studied in ibid., 408—426; cf. T. Fischer, Methodische Bemerkung zur historischen Auswertung antiker Münzhortfunde an Hand der Silberfunde von Susa: Depotfund und Münzversteck, SM 18 (1968), 10—12. The last Parthian king to strike coins at the mint is Vardanes I c. A.D. 39—45.

The region of Susiana is distinguished from Elymais by Strabo XVI.1.8, 17, 18 and Pliny, NH VI.135—136. For the absorption of Susiana and its capital by the kingdom of Elymais, see U. Kahrstedt, Artabanos III, 40—47 and G. L. Rider, Suse, 426—430, who dates the end of Parthian power in Susa to c. A.D. 45 and places a mint of Elymais in the city by c. A.D. 75. Possibly at this time Susa became he capital of Elymais. A Greek and Palmyrene text of A.D. 38, which records an embassy to king Orodes, has been found in the agora of Palmyra; the inscription honours Yarhibol ἐν παντὶ καιρῷ προ[θύμως συνερ]/γοῦντα ἐμπόροις τοῖς ἐ[ν Σπασίνου Χα]/[ρακι] ——— καὶ π̣[ρεσβεύσαντα] α̣ὐ̣θαιρέτως / [πρὸς 'Ορώδην τὸν β]ασιλέα τῆς Αἰλ[υ]/[μήνης] ————————— See H. Seyrig, Syria 22 (1941), 256. The restoration of the king's name is secured by the equally fragmentary Palmyrene text published by J. Cantineau, La Susiane dans une inscription palmyrénienne, in: Mélanges syriens offerts à R. Dussaud 1 (Paris 1939), 277—279.

[722] During the 1951 excavations at Hatra a marble statue bearing the inscription of a previously unknown ruler was found: *'tlw mlk' ntyn' šry'*. See A. CAQUOT, Nouvelles inscriptions araméennes de Hatra, Syria 29 (1952), p. 101 no. 21. This led to the suggestion that Hatra was ruled by the kings of Adiabene (*ntyn'*, Natunia) until at least the campaigns of Trajan in Mesopotamia; see J. TEIXIDOR, The Kingdom of Adiabene and Hatra, Berytus 17 (1967), 1—11, pl. I; cf. B. AGGOULA, Remarques sur les inscriptions hatréennes, Berytus 18 (1969), 89—90. Natunia is identified as the mint of Adiabene (at Sharqert) by J. T. MILIK, A propos d'un atelier monétaire d'Adiabene Natounia, RN 6 ser. 4 (1962), 51—58, who discusses the four known examples of coins with the inscription *Natunisarocerta*. See BMC, Arabia, p. 147 no. 1, pl. XXIII.221; 2 coins in the Nisibis hoard (IGCH no. 1788), H. SEYRIG, RN 5 ser. 17 (1955), p. 88 nos. 6—7, pp. 104—105; and a further example acquired by the Cabinet des Médailles, see G. LE RIDER, Monnaies grecques acquises par le Cabinet des Médailles, RN 6 ser. 2 (1959—60), 30—32, no. 37.

Under Vologeses IV the king of Adiabene refused to aid his Parthian overlord in a war against Persis. Once a Parthian victory was achieved on that front, Vologeses ravaged Adiabene in revenge. A few years later Adiabene allied itself with Ardashir to overthrow the Parthian Empire; see E. SACHAU, Chronik von Arbela, 56, 59, 60—61.

[723] The city appears to be a relatively late foundation (cf. already E. HERZFELD, Hatra, ZDMG 68 [1914], 665). The earliest dated inscription from the site was thought to be Hatra inscription no. 82 of the year 388, which mentions a king Sanatruq (*snṭrwq mlk'*). The inscription was assigned to the Seleucid era and dated A.D. 76/77; see A. CAQUOT, Nouvelles inscriptions araméennes de Hatra (V), Syria 40 (1963), 7—8 no. 82. Recently it has been suggested that the city did not have an independent royal dynasty until the second century; in the first century, argued TEIXIDOR, it was subject to the kings of Adiabene; see above n. 722. The inscriptions mentioning Sanatruq I and Sanatruq II must thus be dated according to TEIXIDOR by the Parthian era. See J. TEIXIDOR, Notes hatréennes: 4. Sur l'ère en usage à Hatra, Syria 43 (1966), 93—97 (basing his arguments primarily on the development of the script). According to this chronological scheme inscription no. 82 would be from the year A.D. 140. The palaeography of the numerals has been restudied by MILIK who has corrected the reading of several dated inscriptions: Hatrean inscriptions no. 138 is now year 448 instead of 348; no. 82 is 488 instead of 388; nos 35, 36 and 80 are 549 instead of 449; see J. T. MILIK, Dédicaces faites par des Dieux, 353—358 who demonstrates conclusively that like the Parthian mint at Seleucia and the mint in Characene, Hatra used the Seleucid era. In that case, no. 214 (year 419) from A.D. 108/109 is the earliest inscription from the site; see also F. SAFAR, Sumer 29.1/2 (1973), 87—97 who dates the first 'lord', *maria*, of Hatra, Nasharyahab I, to c. A.D. 90.

Sanatruq II and his family appear in nos. 28, 36 (year 549), and 37. See the study of A. MARICQ, Hatra de Sanatrouq, Syria 32 (1954), 273—282 (= IDEM, Classica et Orientalia [Paris 1965], 1—10). The possibility of a period of Parthian rule at Hatra in the first century was raised by no. 33 on a large limestone lintel from Hatra: *nsr 'blgš*, victory of Vologeses. CAQUOT saw in this a reference to the events of A. D. 62, cf. A. CAQUOT, Nouvelles inscriptions araméennes de Hatra, Syria 30 (1953), 238—239 no. 33. But this may be the same individual as appears as *maria* in nos. 285 and 140 and as king in nos. 193 and 286, cf. F. SAFAR, op. cit., 92—93.

[724] For example, a Palmyrene inscription of the reign of Tiberius indicates that Germanicus during his visit to Syria (A.D. 18/19) sent a certain Alexander of Palmyra to Messene, to Orabazes and to Samsigeram, the king of Emesa; see J. CANTINEAU, Textes palmyréniens provenant de la fouille du temple de Bel, Syria 12 (1931), 139, no. 18; cf. H. SEYRIG, Antiquités syriennes. 9. L'incorporation de Palmyre à l'empire romain, Syria 13 (1932), 266—268. See also on this embassy E. KOESTERMANN, Die Mission des Germanicus im Orient, Historia 10 (1961), 347, n. 40. In A.D. 38 a bilingual inscription from the agora in Palmyra records an embassy by a Palmyrene Yarhibol to Orodes, the king of Elymais (see text cited above n. 721). Another text from the agora records a dedication by οἱ ἐν (Σ)πασινου Χαρακι ἔμποροι in 131 to 'Ιαραιον Νεβο[υζαβαδ]ου τοῦ / [Σ]αλαμαλλαθου [τοῦ] Αχχαδανου / [Αδ]ριανὸν Παλμυρηνόν, σατρά[π]ην Θιλουανων

Μεερεδατου βασιλέως Σπασινο Χαρακος, Inv. X.25. Note also the swiftness with which Characene surrendered to Trajan in A.D. 116 (Dio LXVIII.28.4): Ὅτι ὁ Ἀθάμβηλος ὁ τῆς νήσου ἄρχων τῆς ἐν τῷ Τίγριδι οὔσης πιστὸς διέμεινεν τῷ Τραϊανῷ, καίπερ ὑποτελεῖν προσταχθείς, καὶ οἱ τὸν Χάρακα τὸν Σπασίνου καλούμενον οἰκοῦντες (ἐν δὲ δὴ τῇ τοῦ Ἀθαμβήλου ἐπικρατείᾳ ἦσαν) καὶ φιλικῶς αὐτὸν ὑπεδέξαντο. — presumably the event celebrated in BMCRE, III, nos. 588—589, pl. 19.19 — the REGNA.ADSIGNATA issues.
For marriage alliances between the vassal kingdoms, see, for example, Josephus, AJ XX. 22—23 on the marriage of Izates, the son of Monobazus of Adiabene to the daughter of Abennerigus of Characene.

[725] For Roman support of Parthian pretenders see N. C. Debevoise, A Political History of Parthia, 143—178. Phraates IV sent four of his sons to live in Rome as hostages: Res Gestae 32; Tacitus, Ann. II.1—2; Suetonius, Aug. 21.3, 43.4; Vell. Pat. II. 94.4; Strabo XVI.1.28 (with the names of all four sons); in CIL VI.1799 = ILS 842 two of Phraates' sons, Seraspadanes and Rhodaspes, are mentioned. For the date see K. Krämer, Zum Freundschaftsvertrag zwischen Rom und Parthien unter Augustus, Klio 55 (1973), 247—248. Cf. particularly the events of A.D. 35/36: Tacitus, Ann. VI.31,37; Dio LVIII.26.1—5; Josephus, AJ XVIII.96—100. Tiberius attempted to induce the kings of the Albanians and Iberians to attack Artabanus III. See on these events R. Seager, Tiberius, 240—243. See also E. Koestermann, Die Mission des Germanicus im Orient, Historia 7 (1958), 347—348 for the difference of opinion between Piso and Germanicus on the establishment of Vonones as a pretender to the Parthian throne.
In A. D. 58/59 a rebellion occurred in the Parthian satrapy Hyrcania and the rebels succeeded in sending an embassy to Rome to seek an alliance; see Tacitus, Ann.XIV.25.2; cf. XIII.37.6; XV.1.1. See W. Schur, Die Orientpolitik des Kaisers Nero, Klio Beiheft N. F. 2 (Leipzig 1923), 18—19, 35—36, 78, many of whose remarks are excessively speculative. On the return route home of the embassy see H. Furneaux, The Annals of Tacitus² (Oxford 1907), 2.264—265, who favours the Persian Gulf route; cf. N. C. Debevoise, A Political History of Parthia, 185 n. 15, who accepts the emendation of *maris sui* for *maris rubri*. It is uncertain for how long Hyrcania remained independent: E. Herzfeld, AMI 4.2 (1932), 86—89 suggests Hyrcania was under Parthian domination again shortly after A. D. 62; cf. V. Minorsky, Vīs u Rāmīn, A Parthian Romance, BSOAS 12 (1947/48), 24, who suggests the kingdom remained independent for over a century; so also U. Kahrstedt, Artabanos III, 82—83; cf. R. N. Frye, The Heritage of Persia, 217, who rejects the view that Hyrcania became a separate kingdom, since no coins of such a state are known.

[726] For the assumption that such a policy existed see W. H. Schoff, Parthian Stations, p. 19, and more recently K. H. Ziegler, Die Beziehungen zwischen Rom und dem Partherreich: Ein Beitrag zur Geschichte des Völkerrechts (Wiesbaden 1964), 50—51. On the very considerable independence of the great cities of the Parthian kingdom see A. H. M. Jones, Cities of the Eastern Roman Provinces², 218—219; cf. N. Pigulevskaja, Les villes de l'état iranien aux époques parthe et sasanide (Paris 1963), 62—65. It has been suggested that from the first century onward the Parthians favoured the Jewish communities of Mesopotamia to counterbalance the power of the great cities of the region; so J. Neusner, Iranica Antiqua 3.1 (1963), 52—57; Idem, A History of the Jews in Babylonia 1 (Leiden 1969), 74—76; also G. Widengren, The Status of the Jews in the Sassanian Empire, Iranica Antiqua 1 (1961), 123—125. Note also the story of the two Jewish weavers, Asineus and Anileus, who succeeded in establishing a robber-baronage in Babylonia during the reign of Artabanus III. They routed a Parthian army sent against them and eventually were granted Babylonia (or a part thereof) as a fief. See Josephus, AJ XVIII.314—339. Cf. on these events N. C. Debevoise, A Political History of Parthia, 155—156; U. Kahrstedt, Artabanos III, 51—52; J. Neusner, History 1.54—56. McDowell has suggested that during the 30's of our era the mint at Seleucia ceased to function because of the anarchy described by Josephus; R. H. McDowell, Coins from Seleucia on the Tigris (Ann Arbor 1935), 225. For the survival and continued functioning of Greek municipal institutions in the cities of the western part of the Parthian Empire see G. A. Koshelenko, Gorodskoi stroi

polisov zapadnoi Parfii, VDI (1960), 4.73—82 who discusses Dura and Susa. Nor were the powerful cities confined exclusively to the old Mesopotamian heartland. For example, a massive wall with thirty-seven bastions of the Parthian period has been found at Takht-i Sulaiman, see A. U. Pope, Preliminary Report on Takht-i Sulayman I. The Significance of the Site, BAIIAA 5.2 (1937), 71—83 (for the identification of the site see also V. Minorsky, BSOAS 11 [1943/46], 258—263 and R. Naumann et al. below) and D. N. Wilber, III. Summary Description of the Extant Structures, ibid., 93—99 (for Parthian remains); for the German excavations of the site during the last decade see R. Naumann, D. Huff, W. Kleiss and R. M. Boehmer, Takht-i Suleiman und Zendan-i Suleiman, AA 80.4 (1965), 619—685 (for Sasanian temple); cf. G. Gropp, Die Funktion des Feuertempels der Zoroaster, AMI N. F. 2 (1969), 170—172. At Neh in eastern Persia (cf. Man.Par. 16: Νιὴ πόλις) a Parthian city of considerable size with a massive and elaborate fortification system has been surveyed, see U. W. Hallier, Neh — eine parthische Stadt in Ostpersien, AMI N. F. 7 (1974), 173—190. In general on Parthian fortifications (both cities and fortresses) see G. A. Koshelenko, Parfianskaia fortifikatsiia, SA (1963), 2.57—73. For the impact of Hellenistic fortification technology on the cities of Bactria and Central Asia see P. Leriche, Aï Khanoum. Un rempart hellénistique en Asie Centrale, RA n. s. (1974), 2.262—270. Such fortifications were all the more politically significant since the Parthians did not possess a regular siege train. The only evidence for any knowledge of the use of siege engines east of the Roman frontier comes from Vani in Georgia where *ballista* shot of various calibers were found, see O. Lordkipanidze, La Géorgie et le monde grec, BCH 98 (1974), 923.

The impact of this lack of central control was earlier described by Strabo, who noted how merchants had come to avoid the route to Babylonia which ran along the Euphrates in Parthian territory, because the φύλαρχοι along the river δυναστείαν ἕκαστος ἰδίᾳ περιβεβλημένος ἴδιον καὶ τελώνιον ἔχει, καὶ τοῦτ' οὐ μέτριον. χαλεπὸν γὰρ ἐν τοῖς τοσούτοις καὶ τούτοις αὐθάδεσι κοινὸν ἀφορισθῆναι μέτρον τὸ τῷ ἐμπόρῳ λυσιτελές (XVI.1.27).

One test of Parthian interest in the major overland trade routes is the extent to which care was taken to encourage traders by caravanserai and bridges at important river crossings. It has been suggested that the construction and maintenance of such caravanserai was part of Parthian state policy to encourage trade: e. g. W. H. Schoff, Parthian Stations of Isidore of Charax (Philadelphia 1914), 18—19; E. H. Warmington, Commerce^2, 20; cf. J. I. Miller, Spice Trade 235: "The Parthians had done what they could to organize this regular trade as their revenues depended on transit dues." Isidorus' Parthian Stations sheds some light on this matter. After crossing at Zeugma he twice describes "stations" as σταθμὸς βασιλικός, one associated with a fortress (Man. Par. 1). These were apparently royal posting stations on the road from Seleucia to the Roman frontier and may not have given shelter to merchants. Once east of Seleucia there are no further "royal stations". A number of villages along the route east contained σταθμοί, but the fact that places so described were always located in villages and that where there were no villages there were no σταθμοί raises the possibility that private inns rather than royal establishments were involved (Man. Par. 2: ['Απολλωνιᾶτις] ἔχει δὲ κώμας, ἐν αἷς σταθμός; 3: [Χαλωνῖτις] ἐν ᾗ κῶμαι ε' ἐν αἷς σταθμός; 4, 5, 6, 8, 9, 11; 14: [Μαργιανὴ] κῶμαι δὲ οὐκ εἰσίν). The archaeological evidence to date for the Parthian period is not encouraging. The impressive caravanserais whose ruins are dotted along the major roads of Iran are primarily constructions of the tenth century or later: see particularly the study of M. Siroux, Caravansérails d'Iran et petites constructions routières, MémIFAO 81 (Cairo 1949), 35—100; also W. Kleiss, Bericht über Erkundungsfahrten in Iran im Jahre 1971, AMI N. F. 5 (1972), 186—191, 223—225, 234—238; Idem, Befestigungen und Straßenstationen aus vorislamischer und aus islamischer Zeit in West-Iran, AMI N. F. 8 (1975), 213—215; Idem, Bericht über Erkundungsfahrten in Iran im Jahre 1972, AMI N. F. 6 (1973), 46—47, 57—62; Idem, Straßenstationen und Karawanserails in West-Iran, AMI N. F. 7 (1974), 238—250. For the Parthian period we have virtually nothing. There may be several explanations: (1) most sites have been dated by surface finds and Parthian material may have been covered by later occupation levels, (2) the antiquity of the Parthian caravanserai is such that no significant ruins remain to atract the attention of those who conduct archaeological surveys; at Kharkon a small fortress or road station of the Parthian period has been found (dated by surface finds of pottery), W. Kleiss, Vorislamische Ruinen im nördlichen Zagros, AMI N. F. 8 (1975), 135—136; at Tepe Azima near where the main East-West road climbs into the Iranian highlands a large rectangular fortification of the Parthian period (dated by surface finds of pottery) has been noted, W. Kleiss, Beobachtungen in der Umgebung von Sarpol-i Zohab, AMI N. F. 8 (1975), 126—127. By contrast the archaeological evidence from the Sasanian period suggests that considerably more care was taken to encourage overland commerce. A number of caravanserai from the Sasanian era have been found and it is at this time that the architectural formation so familiar from the medieval period begins to take shape: at Bisutun there is a large Sasanian caravanserai (dated by excavation). H. Luschey, Ausgrabungen in Bisutun, AFIB 2.1 (1965), 22—23 fig. 4 (who suggests that the structure could originally have been intended as a military post; cf. W. Kleiss, Zur Topographie des 'Partherhanges' in Bisutun, AMI N. F. 3 [1970], 156); at Patak, where the 'Silk Road' climbs into the Iranian highlands a late Sasanian inn (not a caravanserai) has been found, W. Kleiss, AMI N. F. 7 (1974), 233—237; at Qual'eh Gerina there are the remains of a Sasanian (?) road station or fortress, W. Kleiss, AMI N. F. 8 (1975), 127—128; at Hadjiabad a caravanserai of late Sasanian or early Islamic date, W. Kleiss, AMI N. F. 8 (1975), 216.

There is also abundant evidence for bridge construction during the Sasanian period but not during the time of Parthian rule: near Khoramabad, W. Kleiss, AMI N. F. 8 (1975), 136—138; near the Sasanian fortress of Qal'a-ye Dokhtar, G. Gropp, Bericht über eine Reise in West- und Südiran, AMI N. F. 3 (1970), 183—184; the bridge near Darabgerd may be Sasanian, ibid., 196; so also bridges at Firuzabad and near Kavar, W. Kleiss, AMI N. F. 5 (1972), 206; near Mahabad, Idem, AMI N. F. 6 (1973), 41—42.

[727] The belief that the combination of heavy cavalry and horse-archers used so effectively by the Suren at Carrhae revolutionised ancient warfare is a common one (and for a few years after Carrhae shared by Cicero, Ad Fam. IX.25.1). See, for example, M. Rostovtzeff, YCS 5 (1935), 162—163; N. C. Debevoise, A Political History of Parthia, 93. For Parthian ambitions after Carrhae see A. M. Simonetta, An Essay on the so-called Indo-Greek Coinage, E&W n. s. 8 (1957), 45—46; R. Ghirshman, L'Iran et Rome aux premiers siècles de notre ère, Syria 49 (1972), 161.

[728] For the development of Parthian heavy cavalry and light archers before Carrhae see evidence assembled by G. A. Pugachenkova, O pantsirnom vooruzhenii parfianskogo i baktriiskogo voinstva, VDI (1966), 2.27—43. In addition to the suit of armour found at Nisa another such outfit was found in a fourth century B. C. tomb at Tchirik-rabat, see S. P. Tolstov, Iranica Antiqua 1 (1961), 78—80. The remains of overlapping iron scales from a suit of armour have been found in the excavations at Shaikhān Dherī (Chārsada), see F. R. Allchin, A Piece of Scale Armour from Shaikhān Dherī, Chārsada (Shaikhān Dherī Studies 1), JRAS (1970), 113—120. For the eastern origins of cataphract cavalry see A. M. Chazanov, Katafraktarii i ikh rol' istorii voennogo iskusstva, VDI (1968), 1. 185—191. Monument D at Tang-i Sarvak shows a mounted soldier in scale armour on a horse protected by similar armour and armed with a long lance and bow; see M. A. Stein, Old Routes, 110—111, fig. 37, and W. B. Henning, AM 2 (1952), 161—162, pl. XX. The archaeological evidence for the development of heavy armoured cavalry, particularly the graffito from Dura and the Sasanian reliefs, is studied by O. Gamber, Kataphrakten, Clibanarier, Normannenreiter, JKSW 64 (1968), 23—31 and Idem, Grundriß einer Geschichte der Schutzwaffen des Altertums, JKSW 62 (1966), 47—52. The Bosporan vassals of Rome may also have adopted the use of armoured cavalry for their wars against the Sarmatian tribes early in the imperial period, see Iu. M. Desiatchikov, Poiavlenie katafraktariev na Bospore, in: Spornik dokladov na IX i X vsesoiuznykh arkheologicheskikh studencheskikh konferentsiiakh (Moscow 1968), 44—50. By the time of Trajan there were *cataphracti* in the Roman army but these saw action primarily in

the Danube region, see O. Gamber, JKSW 64 (1968), 14. Horse archers armed with powerful composite bows are frequently depicted in Iranian art, particularly in the hunting scenes found on Sasanian silver vessels (some of which may be post-Sasanian, see below n. 1483). In the same tradition see a vase from Merv in G. A. Koshelenko, Unikal'naia vaza iz Merva, VDI (1966), 1.92—105, pl. 3. The famous 'Parthian shot' is much more rarely depicted on the silver vessels and plates but may occur on a stucco plaque from the Sasanian palace at Chal-Tarkhan-Eshqabad, see D. Thompson, in: D. K. Kouymjian (ed.), Studies in Honor of George C. Miles, 86—88, fig. 3. A bow of this type was found in a burial of the Parthian period at Yrzi, see F. E. Brown, A Recently Discovered Compound Bow, SemKond 9 (1937), 1—9. The earliest artistic representation of such a bow from Iran is found on a recently published slab from Mari (third millennium B.C.), Y. Yadin, The Earliest Representation of a Siege Scene and a 'Scythian Bow' from Mari, IEJ 22.2/3 (1972), 89—94. For the development of Roman tactics to deal with this combination of armoured cavalry and mounted archers see Arrian's 'Tactica' and F. Kiechle, Die Taktik des Flavius Arrianus, BRGK 45 (1964), 87—129.

[729] See remarks of E. W. Gray, Review of M. A. R. Colledge, The Parthians . . , CR n. s. 19 (1969), 78. Also above p. 648 for campaigns of Trajan and p. 855, n. 850 for campaigns of Lucius Verus.

[730] On the 'feudal' nature of the Parthian state see E. Herzfeld, AMI 4.2 (1932), 52—80; M. Rostovtzeff, YCS 5 (1935), 162—165; V. Minorsky, BSOAS 11 (1943/45), 757—763; ibid., 12 (1947/48), 20—22 with a first century date for the background of the romance; J. Neusner, Iranica Antiqua 3.1 (1963), 43—44; F. Altheim and R. Stiehl, Geschichte Mittelasiens im Altertum, 468—469. For the powers and privileges of the Suren family, see E. Herzfeld, op. cit., 70—80; M.-L. Chaumont, Recherches sur les institutions de l'Iran et de l'Arménie I, JA 249 (1961), 300—304 — on the privilege of the Suren to command the Parthian cavalry and crown the Arsacid king. In general on the feudal structure of the Parthian and Sasanian periods see the detailed analysis of G. Widengren, Recherches sur le féodalisme iranien, OrSuec 5 (1956), 79—182 (who relies, of necessity, primarily on Sasanian or post-Sasanian sources) and Idem, Die Begriffe *populorum ordo* und *ram* als Ausdrücke der Standesgliederung im Partherreiche, in: Festschrift Walter Baetke (Weimar 1966), 380—391, where Widengren discusses the Parthian feudal state in the light of Justin XLI.2.2. But cf. B. C. Brundage, Feudalism in Ancient Mesopotamia and Iran, in: R. Coulborn (ed.), Feudalism in History (Hamden, Conn. 1965), 110—113 whose description of Parthia as part feudalism part Oriental despotism is in the case of the latter term applicable primarily to the early period. But it is possible that the Parthian kings were worshipped in such major centres as Assur, see E. Klengel-Brandt, Drei parthische Fürstenbilder aus Assur, MIO 11.3 (1966), 339—347 who suggests that three terracottas from Assur may represent royal portraits; cf. Man. Par. 11 and Ammianus XXIII.6.4—5 on the deification of Parthian kings; for the coin legend ΒΑΣΙΛΕΩΣ ΘΕΟΥ ΑΡΣΑΚΟΥ see G. A. Koshelenko, VDI (1968), 1.65—67.

In the period before the late first century B. C. the Parthian kings had a substantial mercenary army but the increasing financial weakness of the monarchy led to the disappearance of this force; see J. Wolski, Le rôle et l'importance des mercenaires dans l'état parthe, Iranica Antiqua 5.2 (1965), 107—113; also idem, Aufbau und Entwicklung des parthischen Staates, in: Neue Beiträge zur Geschichte der Alten Welt, 1 (Berlin 1964), 382—386, who points to the need for mercenaries because of the frequent hostility between some of the great aristocratic families, such as the Suren, and the Parthian king. See also the severe threat posed by the invasions of nomads from the North described in the 'Chronicle of Arbela': E. Sachau, Chronik von Arbela, 47—48. For invasions of Alani in the first and second centuries see F. Altheim, Geschichte der Hunnen, 1.11—12. It has also been suggested that further east the Kuṣāṇas took advantage of Parthian weakness to expand their frontiers westward, see A. Dehkan, The Relationship of the Kushan and the Parthian Empire, Proc. Dushanbe 2.116.

The political instability and feudal nature of the Parthian state is in part reflected in powerful fortifications of the major cities (above n. 726) as well as in the numerous fortresses scattered throughout Iran. A few have the appearance of royal outposts to guard key communication routes, but most are powerful structures on lofty inaccessible crags from which a recalcitrant vassal could have held off the king for years. The former category includes Tepe Choraghi, Kharkon and Malayer in the northern Zagros on the roads to Ecbatana, see W. KLEISS, AMI N. F. 8 (1975), 135—136; a fort at the mining site of Nakhlak has yielded a radiocarbon date from the Parthian period, see n. 747; the fort at Qual'eh Zari, cf. below n. 747. To the latter category belong the extensive fortifications together with a small palace (Qual'eh Dukhtar) on the heights above Rabat-i Safid, see D. N. WILBER, The Ruins of Rabat-i-Safid, BII 6.1/4, 7.1 (1946), 27—28 and in detail U. W. HALLIER, AMI N. F. 8 (1975), 148—165; the fortress at Kale Sasan on a hill by the Caspian Sea appears to go back to the Parthian period as does another fortress near Rujan Dujach, see G. GROPP, Berichte über zwei Erkundungsfahrten in Nordwest-Iran, AMI N. F. 2 (1969), 29, 31; another virtually inaccessible fortress which goes back to the Parthian period is located on a high rock 32 km. northwest of Shaindesh, see W. KLEISS, Bericht über Erkundungsfahrten in Nordwest-Iran im Jahre 1969, AMI N. F. 3 (1970), 120—121; a palace of the Parthian period has been excavated at Khurrha in Azerbaijan, see W. KLEISS, AMI N. F. 5 (1972), 160; at Qual'eh Zohak a fortified site goes back at least to the early Parthian period, ibid., 161—165; cf. IDEM, Qal'eh Zohak in Azerbaidjan, AMI N. F. 6 (1973), 163—188 (reports an abundance of Parthian pottery in the northern site); another fortress occupied in the Parthian period has been found at Gojer Qual'eh, ibid., 185—187.

[731] A. HERMANN, Seidenstraßen, 9; K. SHIRATORI, A New Attempt at the Solution of the Fu-lin Problem, MTB 15 (1956), 181—183; M. CARY, CQ (1956), 130; J. THORLEY, G & R 18 (1971), 75; J. PIRENNE, in: M. MOLLAT (ed.), Sociétés, 118 (but Palmyrenes are excluded from this ban, since they are not connected with Rome!); HIROSHI WADA, Serindia, 18; A. DIHLE, Der Seeweg nach Indien, Innsbrucker Beiträge zur Kulturwissenschaft 11.4 (1974), 12; F. GROSSO, in: La Persia e il mondo greco-romano, 172, n. 58: R. ANDREOTTI, Su alcuni problemi del rapporto fra politica di sicurezza e controllo del commercio nell'impero romano, RIDA 3 ser. 16 (1969), 234; M. LOEWE, Spices and Silk: Aspects of World Trade in the First Seven Centuries of the Christian Era, JRAS (1971), 2.167.
In Iranian society the merchant belonged to the last of the four traditional classes together with artisans and cultivators and official opinion, as represented by the Pahlavi books left by the Zoroastrian clergy, regarded commerce as tainted by profiteering and the lowest of all professions; see M. MOLÉ, Culte, mythe et cosmologie dans l'Iran ancien, AMG Bibliothèque d'Études 69 (Paris 1963), 423—425; A. TAFAZZOLI, A List of Trades and Crafts in the Sassanian Period, AMI N. F. 7 (1974), 191. But the influence of such views during the Parthian period may not have been great since Zoroastrianism was not the Parthian state religion. One word of importance from our point of view which does occur in later Pahlavi works is *sartwa*, "leader of a caravan" (A. TAFAZZOLI, op. cit., 195), a loan word from Sanskrit, *sārthavāha*.

[732] J. THORLEY, G & R 16 (1969), 209: "It is perhaps the gravest economic mistake made by the Romans that much of their wealth, instead of being invested in furthering industries at home, was channelled into purchasing from the East the luxuries not obtainable within the Empire." So also M. LOEWE, JRAS (1971), 2.123 who has unfortunately been misled by MILLER's errors. T. FRANK, The Financial Crisis of 33 A.D., AJPh 56 (1935), 336—341 blames the events described by Tacitus (Ann. VI.16—17) on the export of large quantities of cash to pay for luxury imports.

[733] HHS 118.5a; cf. F. HIRTH, China, 42, and E. CHAVANNES, TP 2 ser. 8 (1907), 185. For An-hsi as the transcription of Arsak (Arsaces) possibly by way of Sogdian see P. PELLIOT, Le Nom du χwārizm dans les textes chinois, TP 2 ser. 34 (1938), 146.

[734] E. CHAVANNES, TP 2 ser. 7 (1906), 214.

[735] See H. BIELENSTEIN, Restoration, 9—15, 21—23. But cf. K. SHIRATORI, The Geography of the Western Region Studied on the Basis of the Ta-ch'in Accounts, MTB 15 (1956), 137—

145, who argues that the account of 'Ta-ch'in' in the HHS is an abbreviated reproduction of the account in the 'Wei-lio'. On which see E. CHAVANNES, Les pays d'occident d'après le Wei Lio, TP 2 ser. 6 (1905), 519—520.

[736] P. DAFFINA, The Return of the Dead, E & W n. s. 21 (1971), 88—89. In general on the frequency of anachronisms in Chinese histories resulting from interpolations during textual transmission see C. S. GARDNER, Chinese Traditional Historiography (Cambridge 1938), 25—29.

[737] See the evidence assembled below p. 1066, n. 1732.

[738] Periplus c. 39 (= FRISK, p. 13.11) from Barbaricum; c. 49 (= FRISK, p. 16.29—30) from Barygaza; c. 56 (= FRISK, p. 18.24) from Nelcunda; c. 64 (= FRISK, p. 21.14—15) from the mouth of the Ganges.

[739] See the scholars cited above n. 731.

[740] In general on these texts see below p. 840, n. 779. Specific texts are discussed pp. 841—846.

[741] On such ties see J. NEUSNER, JBL 83 (1964), 62—64; IDEM, History, 1. 34—53, 94—99, who has assembled the Talmudic evidence. At Nisibis temple dues were collected from Jews in the trans-Euphrates region for shipment to Jerusalem; cf. Josephus, AJ XVIII. 312—313, who states that the coin was then conducted to Jerusalem by πολλαὶ ἀνθρώπων μυριάδες. The family of Monobazus of Adiabene was responsible for a great deal of construction in Jerusalem and a single instance of famine relief: Josephus, AJ XX.50—53, 95; BJ IV.567; V.55, 119, 147; VI.355; see H. GRAETZ, Zeit der Anwesenheit der adiabenischen Königin in Jerusalem und der Apostel Paulus, MGWJ 26 (1877), 241—252 for the date of the visit of Helena, the queen of Adiabene (A.D. 43—48). Genesis Rabbah 79.7 notes that R. Hiyya and R. Simeon b. Halafta went to Higr in Northern Arabia to engage in trade. For late second or early third century date see J. NEUSNER, PAAJR 31 (1963), 165—172.

[742] The brief biographies of local bishops given in the Syriac 'Chronicle of Arbela' are of considerable interest. Three of the bishops in the Parthian period were from the West or had parents from there: Simson came to Adiabene in the company of a caravan; the parents of Noah moved from Babylonia to Jerusalem before moving on to Adiabene; 'Ebhedh-Mešīḥa was born in Arbela but spent his youth in Antioch and Damascus: E. SACHAU, Chronik von Arbela, 43,50,59. In the Sasanian period the bishops of Arbela are men of eastern extraction.

[743] See the Palmyrene inscriptions cited below p. 840, n. 779; for the expedition of the agents of Maes Titianus see below p. 846, n. 796. The Babylonian Talmud refers to a visit of Levi b. Sisi from Palestine to Nisibis: Bab. Talmud. Shabbath 130a, and cf. Quiddushin 72a and Bab. Talmud. Shabbath 139a for his visits to Babylonia. For the chronology see J. NEUSNER, History, 1.153—160.

[744] Possibly even the Roman troops may have also crossed the frontier. Cf. the dedication to the centurion Iulius Maximus by Μᾶρκος Οὔλπιος Αβγαρος / Αιρανου υἱὸς καὶ οἱ ἀπὸ Σπασινου / Χαρακος, H. SEYRIG, Syria 22 (1941), 242, no. 12 = Inv. X.81.

[745] See the material collected by J. NEUSNER, History, 1.34—53 and J. JEREMIAS, Jerusalem in the Time of Jesus (1969), 66—67. Cf. also Lucian, De Syria Dea 13 and 32 for the many visitors from beyond the Euphrates to the shrine of Atargatis at Hieropolis.

[746] This is frequently asserted. For example, in J. NEUSNER, History 1.48; J. I. MILLER, Spice Trade, 139.

[747] There is little evidence about the sources of Parthian wealth. In the early period loot was an important factor; so J. WOLSKI, Iranica Antiqua 5.2 (1965), 109—111. For an insight into the forms of Parthian taxation we can now look to the ostraca found in the citadel at the royal capital of Nisa. Almost 2,500 ostraca have been found since 1948 in the former wine-storage rooms at Nisa. All the documents date from the mid-second (no. 257 is

of the year 97 = 151/150 B. C.) to the late first century B. C. and record payments of rent or taxes in kind, in this case wine. Only relatively few of the texts have been published, but the general outlines are clear. See I. M. Diakonov, M. Diakonov and V. A. Livshits, Parthian Administrative Documents from South Turkmenistan, Papers presented by the Soviet Delegation at the XXIII International Congress of Orientalists (Moscow 1954), 94—107; Idem, Parfianskii arkhiv iz drevnei Nisy, VDI (1953), 4.114—130; cf. I. N. Vinnikov, O iazyke pis'mennykh pamiatnikov iz Nisy (Iuzhnyi Turkmenistan), VDI (1954), 2.115—128; I. M. Diakonov and V. A. Livshits, Parfianskoe tsarskoe khoziaistvo v Nise I veka do n.e., VDI (1960), 2.14—38; J. Harmatta, Iz istorii alano-parfianskikh otnoshenii, AAntHung 13 (1965), 129—133 (on O. Nisa 1949 and 1760). The major collection of 180 texts has appeared in I. M. Diakonov and V. A. Livshits, Dokumenty iz Nisy I v. do n. e.: Predvaril'ne itogi raboty (Moscow 1960). See also the texts republished by Sznyzer with extensive commentaries: M. Sznyzer, Ostraca d'époque parthe trouvés à Nisa, Semitica 5 (1955), 65—98; Idem, Nouveaux ostraca de Nisa, Semitica 12 (1962), 105—126; Idem, Quelques observations sur les ostraca de Nisa, Semitica 13 (1963), 31—37. Also important elucidations of some of the vocabulary, titles, and terms in the ostraca (but frequently overlooked) may be found in F. Altheim and R. Stiehl, Die Araber in der Alten Welt, 2 (Berlin 1965), 204—227, and Idem, Geschichte Mittelasiens im Altertum, 470—483; cf. R. N. Frye, Oriens 15 (1962), 355. Six ostraca of chronological interest are republished by M.-L. Chaumont, Les ostraca de Nisa: Nouvelle contribution à l'histoire des Arsacides, JA 256 (1968), 32—34. A further 458 ostraca (bringing the total to over 2500) were found in the excavations of 1959—1961. Ten of the more interesting of these texts (cited as Nov.) were published by I. M. Diakonov and V. A. Livshits, Novye nkhodki dokumentov v Staroi Nise, in: Peredneaziatskii Sbornik 2 (1966), 134—157; cf. for Nov. 307 and 366 M.-L. Chaumont, Études d'histoire parthe I. Documents royaux à Nisa, Syria 43 (1971), 145—147. The character of the ostraca can be quickly grasped from a glance at P. Gignoux, Glossaire des inscriptions pehlevies et parthes, CIIran Suppl. I (London 1972), s. v. ḤLH, ḤMR and KRM'. The ostraca suggest that the Parthian kings could rely on revenues in kind from their own estates. For the date of the Nisa site see the discussion of a tetradrachm of Mithradates I found there, M. E. Masson, Nakhodka na gorodishche Staraia Nisa datirovannoi parfianskoi tetradrakhmy Mitridata I, VDI (1963), 2.152—155.

Vineyards are also the items of sale mentioned in the Avroman manuscripts (see below n. 771). It has also been adduced from 5 Pahlavi ostraca from Dura Europos that early in the Sasanian period, when that state still bore the strong imprint of its Parthian predecessor, taxes on land were paid in kind (for references see below n. 1734). See in particular O. Dura (Pah.) 1—2, 4—5 (delivery of grain), republished with extensive commentary by J. Harmatta, Die parthischen Ostraka aus Dura-Europos, AAntHung 6 (1958), 90—141. Unlike the Nisa ostraca, the Dura documents mention the individual rather than the estate which is making the payment.

Mining may also have been an important source of state revenue (cf. M. Rostovtzeff, SEHHW 1.471—472 for the Seleucid period) for the Parthians. The extensive remains of a large silver mining facility which may go back to the Parthian period have been found at Nakhlak, see U. W. Hallier, Fort, Atashgah und Chahar Taq von Nakhlak: Überreste einer sasanidischen Bergbausiedlung, AMI N. F. 5 (1972), 285—307 (note particularly the radiocarbon dates on p. 306: 1790 ± 100 — from a beam in the mine; 1820 ± 20 — from the wall of the fort). A similar fort, also possibly going back to the Parthian period, has been explored at a copper and lead mining complex at Qual'eh Zari, see U. W. Hallier, Qual'eh Zari, ein prä-islamisches Fort in Ostpersien, AMI N. F. 6 (1973), 189—196.

Of some importance also for our problem is Book II of the pseudo-Aristotelian 'Oeconomica', which in part describes how the satraps, kings, and cities of Asia raised revenues in the third century B.C. (see M. Rostovtzeff, SEHHW, 1.440—446). It is noted that the chief source of satrapal revenue was taxes on agriculture (ἐκφόριον, II.4); revenue from commerce of all sorts (reading ἐμποριῶν instead of ἐμπόρων), stands third on the list. The conditions Strabo describes on the Euphrates frontier (XVI.1.

27) may have prevailed elsewhere in the Parthian Empire: local strongmen collected tolls to whatever level the traffic would bear and passed as little as possible on to the royal treasury. Various types of land taxes and a head tax also constituted the great bulk of all the tax revenues collected in the Sasanian Empire; see I. Hahn, Sassanidische und spätrömische Besteuerung, AAntHung 7 (1959), 149—160. For the 'tribute' paid by the great landed vassals see G. Widengren, OrSuec 5 (1956), 119—121 and more generally H. Kreissig, Prolegomena zu einer Wirtschaftsgeschichte des Seleukidenreiches, Klio 56 (1974), 526—527. For the view that revenues exacted from foreign commerce passing through Parthia were of vital importance to the royal treasury see J. Neusner, Iranica Antiqua 3.1 (1963), 52; also M. A. R. Colledge, The Parthians, 77—85 and B. Prakash, The Parthians: A Reappraisal, VIJ 2.2 (1964), 317. As is clear from the evidence assembled above, this is a fallacy.

[748] P. Dura 20 is a loan contract drawn up in A.D. 121 in the village of Paliga just inside the Parthian frontier. The eunuch, Phraates, and his lord, Manesus, the Parthian governor of the western frontier, both bear Iranian titles: Phraates is simply designated ἀρκαπάτης (line 4), but the titles of Manesus in lines 4—5 furnish our only evidence for the organisation of the Parthian frontier: τῶν παρὰ Μανήσου τοῦ Φραάτου τῶν βάτησα καὶ τ̣[ῶν] / ἐλευθε̣[. .]ρων, παρ̣α̣[λ]ήπ̣τ̣ο̣υ̣ καὶ στρατηγοῦ Μεσοποταμίας καὶ Παραποταμίας καὶ Ἀραβάρχου. First published with slightly different readings by M. Rostovtzeff and C. B. Welles, Un contrat de prêt de l'an 121 ap. J. C. trouvé à Doura, CRAI (1930), 158—181, and Idem, A Parchment Contract of Loan from Dura-Euphrates, YCS 2 (1931), 1—78; cf. W. Ensslin, PhW 53 (1933), cols. 268—269, who reports Mlaker's suggestion that παρ[άπα]της should be read in line 5. This also has the support of M. Rostovtzeff in CAH 11.114 n. 5, and J. Wolski, Parthian and Iranian Titles in the Parchment No. 10 from Dura, JJP 7/8 (1953/54), 287—290, who also suggests an origin in the Iranian title *pāhragbēdh*. Wolski restores the text as τῶν βάτησα καὶ [αὐτοκρατό]ρων and suggests that Manesus perhaps ranked second only to the king himself in the Parthian kingdom. Cf. also R. N. Frye, Oriens 15 (1962), 352—354 on the meaning of βάτησα, possibly πιτιάξης (see on this below p. 830, n. 763); cf. F. Altheim and R. Stiehl, Geschichte Mittelasiens im Altertum, 528—537. Also on the titles in this document see M.-L. Chaumont, Recherches sur les institutions de l'Iran ancien et de l'Arménie, JA 250 (1962), 12. Welles prints παρ̣α̣[λ]ηπ̣τ̣ο̣υ̣ and argues (p. 112) that this makes sense, since this was a major trade barrier. Inspection of the photograph (pl. VIII.2) of the text suggests that no certain restoration is possible. Despite the doubt over the actual readings of some of the titles, it is clear that the governor of the western frontier of Parthia was a man of very high rank (possibly a Suren — so Rostovtzeff and Wolski) and one whose duties included at least nominal authority over Arabian tribes within or along the Parthian frontier (see above n. 726).

[749] Philostratus, VA I. 20 refers to the Roman side of the frontier; see above p. 782, n. 585.

[750] For the Han passport system see above n. 618; for India see below p. 1043, n. 1615; and for Arabia below p. 962, n. 1241. The existence of such control in Mesopotamia is suggested by a humorous (fictive) incident narrated by Philostratus, VA I.27: the sage upon his arrival at the gates of Babylon was questioned by ὁ σατράπης ὁ ἐπὶ τῶν μεγάλων πυλῶν, who asked his profession and why he came to the city, and recorded the answers in a book. The term σατράπης is used here in the sense of the lesser nobles so described in the Parthian period, see F. Altheim and R. Stiehl, Geschichte Mittelasiens im Altertum, 397—398, 473—474. See also the mention of *ḥštrpn* as a group who submit payments of wine in the Nisa ostraca (Nov. 41 and 76); see I. M. D'iakonov and V. A. Livshitz, in: Peredneaziatskii Sbornik 2 (1966), 142—143. A similar function to that ascribed to the σατράπης by Philostratus must have been performed by the πυλουροί we encounter in the Dura inscriptions; see: Dura Excavations, Second Season, 1928—1929, 138—139, D. 102 and 103 = SEG VII.624—625.

[751] See Comte du Mesnil du Buisson, Les tessères et les monnaies de Palmyre (Paris 1962), 39—40.

[752] See comments of J. NEUSNER, History, 1.17—18; J. WOLSKI, Neue Beiträge zur Geschichte der Alten Welt, 382. See also for continuation of Greek law comments of E. SCHONBAUER, Rechtshistorische Urkundenstudien zum griechischen Recht im Zweistromland, APF 12. 3/4 (1937), 194—217, esp. 212—217.

[753] For evidence of Hellenic impact on some aspects of Parthian culture see below n. 762. For the descriptive term *Philhellen* on the coins of the early Parthian kings see R. H. MCDOWELL, Coins from Seleucia on the Tigris, 218. The term is, of course, used here for propaganda purposes.

[754] See the evidence above in n. 585.

[755] Antimenes of Rhodes, an officer of Alexander, 'restored' the customs charges of Babylonia; cf. Ps. Arist., Oec. II.34: νόμου ὄντος ἐν Βαβυλωνίᾳ παλαιοῦ δεκάτην εἶναι τῶν εἰσαγομένων χρωμένου δὲ αὐτῷ οὐθενός. That the tax was charged on all road traffic may be inferred from Antimenes' title ἡμιόδιος 'Αλεξάνδρου περὶ Βαβυλῶνα. The list of persons upon whom the tax is levied curiously omits merchants: τοὺς σατράπας ἅπαντας .... καὶ στρατιώτας, οὐκ ὀλίγους τε πρέσβεις καὶ τεχνίτας .... καὶ δῶρα πολλὰ ἀναγόμενα. See discussion in A. ANDREADES, Antimène de Rhodes et Cléomène de Naucratis, BCH 53 (1929), 7—8.

[756] For the existence of regional tax districts around the Mesopotamian urban centres see the expression 'Επωνίου — ζξρ — 'Ορχηνοῦ — λιμένος on a seal from Uruk published by M. ROSTOVTZEFF, Seleucid Babylonia, YCS 3 (1932), 39—40 n. 51, pl.X.6, and comments 78—81. For the tax on river traffic see seal nos. 65—66 (ibid., 43—44 and commentary 87—90): e. g. Πλοίων — Εὐφράτου — δμρ — 'Απολλοδ[ωρ] — (168 B. C., no. 65). All of the seals published by ROSTOVTZEFF are Seleucid in date.

[757] See the evidence for commercial movement between Syria and Mesopotamia cited above. Cf. also the general cultural unity of the area whose various aspects are noted in P. BROWN, The Diffusion of Manichaeism in the Roman Empire, JRS 59 (1969), 92; F. MILLAR, Paul of Samosata, Zenobia and Aurelian: The Church, Local Culture and Political Allegiance in Third Century Syria, JRS 61 (1971), 1—17. For the common architectural traits of the region see J. B. WARD-PERKINS, Frontiere politiche e frontiere culturali, in: La Persia e il mondo greco-romano, 396—408.

[758] Throughout the period of Seleucid and Parthian dominance the bulk of the coinage in circulation at Dura was struck in Antioch. Cf. A. R. BELLINGER, The Excavations at Dura-Europos. Final Report VI: The Coins (New Haven 1949), 189—203, who suggests that the Parthians did not strike coins for the cities of Northern Mesopotamia and as a result these areas relied on imported Syrian silver from Tyre and Antioch; see also E. T. NEWELL, The Fifth Dura Hoard, NNM no. 58 (1953), 7—9. During the Seleucid period Dura had already belonged to the Antiochene economic orbit, so IDEM, Seleucid Dura. The Evidence of the Coins, Berytus 9.1 (1948), 58—59, 61, 67. Three documents, two of the Parthian period and one of the Roman period, also confirm the conclusion drawn from the coin finds. P. Dura 20.6 (A.D.121), 23.5 (134), and 25.29 (180) mention ἀργύριον καλὸν Τυρίου κόμματος. For this term as a reference to tetradrachms struck at the Roman mint in Antioch see A. R. BELLINGER, in: Dura Excavations, Third Season, 1929—1930, 144—147; IDEM, Two Roman Hoards from Dura Europos, NNM no. 49 (1931), 2—5, and E. T. NEWELL, in: Dura Excavations, Seventh and Eighth Seasons, 1933—1934, 1934—1935, 443—444. References to ἀργυρίου Τυρίου δραχμὰς also occur in the Gerasa inscriptions: Gerasa no. 3; OGIS 622 = IGR III. 1351 = Gerasa no. 4; IGR III.1355 = Gerasa no. 5 (the latest from A. D. 69/70).

A bilingual Hatrean and Greek inscription from Dura records a votive offering of 100 *dnr'* made by Malkion. See COMTE DU MESNIL DU BUISSON, Un bilingue araméen-grec de l'époque parthe à Doura-Europos, Syria 19 (1938), 147—152, who describes the text as Palmyrene and assigns it to c. A. D. 31; cf. R. DUSSAUD, Note additionelle, ibid., 152, who suggests a date in the first half of the third century; cf. A. CAQUOT, Syria 30 (1953), 245—246 with a new identification of the ductus and a second-century date.

[759] For Roman coins found at Seleucia see R. H. McDowell, Coins from Seleucia on the Tigris (Ann Arbor 1935), 232, who gives no details but describes them as a "considerable number"; a large hoard of *aurei* was found in 1891 at Diarbekir on the west bank of the Tigris, see K. Regling, Der Schatz römischer Goldmünzen von Diarbekir (Mardin), BfM (1931), no. 11.353—364, pl. 10; no. 12.369—370, who describes 302 *aurei* (Nero to Commodus); the 1929—1930 excavations at Nineveh uncovered a mixed Roman-Parthian hoard of 387 coins of which 121 were restored issues of Philip Philadelphus struck at Antioch, 29 were tetradrachms from Antioch and Tyre (Nero to Geta), 3 silver didrachms from Caesarea (all Trajan), 139 *denarii* (Galba to Plautilla) and 92 Parthian drachms; see G. F. Hill, A Hoard of Coins from Nineveh, NC 5 ser.11 (1931), 160—170. At Susa various bronze and billon issues of Roman mints were found, see G. Le Rider, Suse sous les Séleucides et les Parthes, p. 213 nos. 561—563 (two Æ and an *antoninianus* from the Antioch mint: Augustus to Aurelian), p. 230 nos. 646—648 (one Æ and two billon coins from Alexandria: Hadrian to Severus Alexander), p. 221 nos. 606—607 (two Æ struck at Samos: Severus Alexander and Gordian III), p. 223 no. 613 (one Æ: Nero). In c. 1915 a pot containing 20 Roman Æ from Antioch (3 Nerva, 2 Trajan, 4 Hadrian, and 6 Antoninus Pius), came to light; see J. Walker, The Coins of Hatra, NC 6 ser. 18 (1958), 169. The bronze issues of Hatra imitate the coins issued at Antioch, see J. Walker, NC 6 ser. 18 (1958), 168—171. Scattered Roman coins occur as far south as Nippur, e. g. an *aureus* of Tiberius found in a grave near Nippur, see H. V. Hilprecht, Explorations in Bible Lands during the 19th Century, (Philadelphia 1903), 507. But by far the dominant coinage at Nippur is Parthian, see J. Knudstad, A Preliminary Report on the 1966—67 Excavations at Nippur, Sumer, 24.1/2 (1968), 105 and M. Gibson, Coins as a Tool in Archaeological Surface Survey, in: D. K. Kouymjian (ed.), Studies in Honor of George C. Miles, 10 (on surface finds). For the discovery of a large hoard containing hundreds of *aurei* of the first and second centuries at Nihevand in 1910 or 1911 see E. Herzfeld, The Hoard of the Karen Pahlavs, BurlMag 52.1 (1928), 21.

Seleucia was the major mint for Parthian tetradrachms, see R. H. McDowell, Coins from Seleucia, 154—159. Ecbatana has been suggested as the mint for drachms in the first two centuries of our era, see D. G. Sellwood, A Die-Engraver Sequence for Later Parthian Drachms, NC 7 ser.7 (1967), 13; for the Parthian mint at Susa see G. Le Rider, op. cit., 365—426. See also N. M. Waggoner, The Coinage of Phraates III of Parthia: Addenda, in: D. K. Kouymjian (ed.), Studies in Honor of George C. Miles, 20—21.

[760] For the Roman period see hoards listed above. In the first century B. C. the pattern was similar; see, for example, the Nisibis hoard, which out of a total of 624 coins contained 214 issues of the Antioch mint, H. Seyrig, RN 5 ser.17 (1955), 91—92 (buried c. 32/31 B.C.); a hoard found at Mardin in Upper Mesopotamia in 1952 contained 32 issues of the Antioch mint (30 of Philip Philadelphus) and 56 Parthian drachms, H. Seyrig, Trésors du levant anciens et nouveaux (Paris 1973), 105—106 no. 34; a hoard found at Diarbekir in 1955 out of a total of 138 coins (including 80 Parthian drachms) contained 136 of Philip Philadelphus and 4 Roman imitations of the same, ibid., 108—109 no. 38. For the continuation of the issuance of the tetradrachms of Philip Philadelphus at Antioch under Augustus see E.T. Newell, The Pre-Imperial Coinage of Antioch, NC 4 ser.19 (1919), 69—113; cf. C. M. Kraay, Early Imperial Tetradrachms of Syria, RN 6 ser.7 (1966), 58—60, who assigns the latest imitations to 17/16 B. C. and assigns the earliest issues of Augustus from the mint to 5 B. C..

For the fineness of the tetradrachms struck at Antioch see E. R. Caley, Chemical Composition of Parthian Coins, NNM no. 129 (New York 1955), 37, a tetradrachm of Vespasian with 56.2 % silver and one of Trajan with 51.2 % silver. Neutron activation analysis of 3 tdrs. of Vespasian showed 59.3 %, 60.5 % and 64.7 % silver; 6 tdrs. of Trajan: 42.7 %, 50.1 %, 50.1 %, 53.6 %, 56.1 % and 60.4 % silver; see P. Meyers, Archaeometry 11 (1969), 79.

[761] The advantageous position of Jewish merchants, whose co-religionists were scattered far and wide in the Near East, in the international luxury trade has been stressed by J. Neusner, Some Aspects of the Economic and Political Life of Babylonian Jewry, ca. 160—220 C. E., PAAJR 31 (1963), 167—171. Evidence for such commercial and religious contact

is cited above. Although the presence of Jews in Adiabene is scarely mentioned in the Syriac 'Chronicle of Arbela', it is clear from the fact that Christianity had spread to east of the Tigris c. A.D. 100 and that here, as elsewhere, Jewish communities provided the earliest body of converts; cf. E. SACHAU, Chronik von Arbela, 12—14. For provision of quarters in synagogues for Jewish travellers including merchants see C. H. KRAELING, The Excavations of Dura-Europos, Final Report VIII.1: The Synagogue (New Haven 1956), 10.

[762] A view also shared in the West, e. g., Dio Chr. LIII.6: ὁπότε καὶ παρ' 'Ινδοῖς φασιν ᾄδεσθαι τὴν 'Ομήρου ποίησιν, μεταλαβόντων αὐτὴν εἰς τὴν σφετέραν διάλεκτόν τε καὶ φωνήν; Plut., Crassus 33.2; Plut., Moralia 328.C—E (largely hyperbolic accounts). In a recent work on Alexander of Macedon, Fox has accepted these accounts and sought to confirm them by citing inscriptions from Ceylon from half a millennium after Alexander which are purported to mention Plato, Aristotle und Alexander; see R. L. Fox, Alexander the Great (London 1971), 492. This curious theory is based on S. PARANAVITANA, The Greeks and the Mauryas (Colombo 1971). Even if one is prepared to accept the author's transcription of these very difficult inscriptions (P. acknowledges that at first he could make out little on these stones since several texts had been cut over top of each other; a glance at plates 1—6 inspires little confidence in any transcription), it must be remembered that the information in them probably comes from the eleventh to fifteenth centuries. There exists the danger of exaggeration here. See ROSTOVTZEFF's very proper protest against earlier views that Parthian art was only degraded Greek art; M. ROSTOVTZEFF, Dura and the Problem of Parthian Art, YCS 5 (1935), 157—194, who emphasizes Iranian elements (but cf. below p. 1042, n. 1605 for influence of Classical Greece on early Achaemenid art). Cf. P. ACKERMANN, in: SPA 2.690, who in discussing Parthian textiles states that the whole Parthian Empire "was newly reimpregnated with Classicism". For influence of Graeco-Roman art on Mesopotamian and Parthian sculpture see SHINJI FUKAI, The Artifacts of Hatra and Parthian Art, E & W n. s. 11.2/3 (1960), 142—180; cf. earlier H. INGHOLT, Parthian Sculptures from Hatra, Mem. of the Conn. Acad. of Art and Sciences 12 (1954), 8—46. For the survival of Greek influence in Eastern Iran see also the works cited above pp. 756—759. Cf. G. A. PUGACHENKOVA, K interpretatsii nekotorykh′ pamiatnikov parfianskogo zodchestva Iuzhnogo Turkmenistana, IANTSSR (1973), 1.17—22 who stresses the architectural similarities of the Parthian cities of Southern Turkmenistan (Nisa, Merv, Erk-kaly) with Surkh Kotal and other Bactrian sites. For an excellent recent study of Parthian sculpture see K. WEIDEMANN, JRGZM 21 (1974), 146—171.

Of great importance are the Soviet excavations of the early Parthian capital of Nisa. Most famous are the ivory rhyta from the site, which demonstrate a high level of artistic ability and a blend of Greek and Oriental motifs: V. G. LUKONIN, Persia II, pls. 5—7; a further find of ivory rhyta is reported by G. A. PUGACHENKOVA, VDI (1969), 1.162. The definitive publication of the rhyta is M. E. MASSON and G. A. PUGACHENKOVA, Parfianskie ritony Nisy, TIuTAKE 4 (Ashkhabad 1959). Although the artistic rendering of the rhyta is primarily Hellenistic, the social values connected with its use are Iranian. Such finely worked rhyta are found throughout the Iranian cultural sphere, e. g. among the Scythians of South Russia (see below n. 926); at Kohna Masdjid (Sasanian period), see D. SCHLUMBERGER, Le Rhyton de Kohna Masdjid, Artibus Asiae 24 (1971), 3—7. For the rhyton as a symbol of the sacerdotal function of royalty see M. L. CARTER, Royal Festal Themes in Sasanian Silverwork and their Central Asian Parallels, AcIr 1 ser. 1 (1974), 183—184, 189—193 who analyses Iranian banqueting scenes in various media. In fact, an Iranian origin for the rhyton is suggested by R. N. FRYE, Historical Notes on Sasanian and Byzantine Silver, BAIPU 1 (1969), 36. The rhyton may thus have reached China in the hands of Central Asian immigrants: note the foreigner holding a rhyton depicted in a relief on a Chinese shrine, see G. SCAGLIA, Artibus Asiae 21 (1958), 16—17. This suggests that the animal-head agate rhyton found in 1970 in an early T'ang hoard near Sian (above n. 343) may have originated from the Iranian cultural sphere rather than from the Graeco-Roman world or Hellenistic Egypt, for the latter views see

A. Oliver Jr., Review of H.-P. Bühler, Antike Gefäße aus Edelsteinen (Mainz 1973), AJA 79.2 (1975), 167 and K. Parlasca, Ein Hellenistisches Achat-Rhyton in China, Artibus Asiae 37.4 (1975), 280—286. This is also indicated by finds of animal head rhyta showing 'Hellenistic influence' at Gilgit in Northern India and similar vessels in Saka cemeteries at Alichur and Veshil Kul, see B. A. Litvinsky, Archaeological Discoveries on the Eastern Pamirs and the Problem of Contacts between Central Asia, China and India in Antiquity, XXV International Congress of Orientalists, Papers Presented by the U.S.S.R. Delegation (Moscow 1960), 6—8.

See also the seals from Nisa: M. E. Masson and G. A. Pugachenkova, Ottiski Parfianskii pechatei iz Nisy, VDI (1954), 4.159—169. esp. nos. 26—27, 38—41. The recently published ivory chair, couch and footsool from Nisa (see G. A. Pugachenkova, Tron Mitridata i iz Parfianskoi Nisy, VDI [1969], 1.161—171, pls. 3—4) also show a mixture of Iranian and Greek styles; cf. P. Bernard, Syria 47 (1970), 327—343, who over-emphasizes the Greek influence shown by these remains. Hellenistic influence on pottery uncovered from the fill in a structure (site VII) excavated at Shahr-i Qūmis has also been noted. The fill was also found to contain 7 fresh Parthian coins of the first century B. C., see J. Hansman and D. Stronach, JRAS (1970), 47—48, pl. IXb—c; Idem, Excavations at Shahr-i Qūmis, 1971, JRAS (1974), 12, 18—19, fig. 5.3 (for date of these coins attributed to Phraates III in D. Sellwood, The Parthian Coins of Gotarzes I. Orodes I and Sinatruces, NC [1962], 81—82 see G. Le Rider, Suse, 392—398). For the identification of the site with the early Parthian capital Hecatompylos see J. Hansman, The problems of Qūmis, JRAS (1968), 111—116; J. Hansman and D. Stronach, JRAS (1970), 29—32. Ironically the degree of Hellenization reflected in the archeological finds to date from Parthia and Central Asia appears to diminish after the first century of our era; cf. comments of V. M. Masson, in: La Persia e il mondo greco-romano, 368.

[763] Excavations in 1940 near Armazi in Georgia yielded five inscriptions: two gems inscribed in Greek, one with the following 'Ασπαιροῦκις πιτιάξης; a silver cup with a Greek inscription: 'Εγὼ βασιλεὺς Φλ[αύιος] Δάδης ἐχαρισάμην βερσοῦμα πιτιάξῃ; an Aramaic inscription and a bilingual Greek and Aramaic epitaph: Σηραπεῖτις Ζηουάχου / τοῦ νεωτέρου πιτιάξου / θυγάτηρ, Πουπλικίου 'Αγρίππα πιτι/άξου υἱοῦ 'Ιωδμανγάνου γυνὴ / τοῦ πολλὰς νείκας ποιήσαντος, / ἐπιτρόπου βασιλέως Ἱβήρων / μεγάλου Ξηφαρνούγου, ἀπέ/θανε νεωτέρα ἐτῶν $\overline{\kappa\alpha}$, / ἥτις τὸ κάλλος ἀμείμητον / εἶχε. The description of the non-Greek text as Aramaic is by no means universally agreed upon. On the Greek epitaph see M. N. Tod, Review of G. Tsereteli, A. Bilingual Inscription from Armazi near Mcheta in Georgia (Tiflis 1942), JRS 33 (1943), 82—86. The largest Aramaic inscription was republished by H. W. Bailey, Caucasica, JRAS (1943), 1—3. On these inscriptions see H. S. Nyberg, Quelques inscriptions antiques découvertes récemment en Géorgie, Eranos 44 (1946), 228—243; R. N. Frye, Pahlevi Hierography in Ancient Georgia ?, in: Archaeologica Orientalia in memoriam Ernst Herzfeld, 89—101; B. M. Metzger, A Greek and Aramaic Inscription Discovered at Armazi in Georgia, JNES 15 (1956), 18—26; P. Grelot, Remarques sur le bilingue grec-araméen d'Armazi, Semitica 8 (1958), 11—20. On the title πιτιάξης (Pehlevi *bitaxš*) see A. Pagliaro, Mediopersiano *bitaxš*, armeno *bdeašx*: ὁ ὀφθαλμὸς τοῦ βασιλέως, RSO 12 (1929/30), 160—168; G. P. Carratelli Res Gestae Divi Saporis, PP 2 (1947), 238—239 n. 1; Idem, Ancora sulle Res Gestae Divi Saporis, PP 2 (1947), 359 (on πιτιάξης in the Greek text of the Naqsh-i Rustam inscription of Shapur I); A. Pagliaro, Riflessi di etimologie iraniche nella tradizione storiografica greca, RAL 8 ser. 9.5/6 (1954), 141—146 (esp. 143 on the Armazi texts); M. Rostovtzeff and C. B. Welles, YCS 2 (1931), 51—52, and R. N. Frye, Oriens 15 (1962), 154 (on the possibility of identifying βάτησα in P. Dura 20 with πιτιάξης). See also the Greek inscription found at Mtskheta in 1867 which records that Vespasian, Titus and Domitian βασιλεῖ / 'Ιβήρων Μιθριδάτῃ βασιλέως Φ/αρασμάνου καὶ 'Ιαμάσπῳ τῷ υἱῷ / φιλοκαίσαρι καὶ φιλορωμαίω⟨ν⟩ τῷ ἔ/θν(ε)ι τὰ τείχη ἐξωχύρωσαν. OGIS 379 = IGR III.133 = ILS 8795 (A. D. 75). For the reading 'Ιαμάσπῳ instead of 'Ιαμάσδει see M. N. Tod, JRS 33 (1943), 85 n. 2. The text is republished with an extensive commentary by G. V. Tsereteli, Grecheskaia nadpis' epokhi Vespasiana iz Mtskheta, VDI (1960), 2.123—133 who reads ΙΑΜΑΣΑΣΠΟΙ, cf. A. I. Boltou-

Nova, Quelques notes sur l'inscription de Vespasien trouvée à Mtskheta, Klio 53 (1971), 213—222 who favours ⟨ι⟩ 'Αμασάσπῳ υἱῷ (cf. IGR I.192).

The numerous finds of fine bronze vases in Georgia also indicate a taste for Mediterranean toreutic work; see O. D. Lordkipanidze, SA (1964) 1.199—220; see details above p. 762, n. 508. The circulation and imitation of Roman *denarii* and *aurei* is discussed below p. 672. For the Parthian and Roman coins found at Mtskheta, see D. G. Kapanadze, Monetnye nakhodki Mtskhetskoi ekspedistii, VDI (1955), 1.160—171.

[764] For the period of Seleucid rule in Iran we possess a Greek manumission inscription of the period 281—266 B.C. which mentions a ἱερὸν Σαράπιος: SEG XX.325; cf. the date in L. Robert, Hellenica 11/12 (1960), 88—89; cf. on Andragoras and his chronology now R. Ghirshman, Un tétradrachme d'Andragoras de la Collection de M. Foroughi, in: D. K. Kouymjian (ed.), Studies in Honor of George C. Miles, 1—7. An inscription from Nehavend records a letter of Menedemus to the magistrates of Laodicea and another letter from Antiochus III to Menedemus, see L. Robert, Inscriptions Séleucides de Phrygie et d'Iran, Hellenica 7 (1949), 5—24; Idem, Inscription honorifique à Laodicée d'Iran (Nehavend), Hellenica 8 (1950), 73—75. The excavations at Aï-Khanoum in Afghanistan (see above p. 757, n. 490) have also yielded two Greek inscriptions of the third century B.C., one the now famous epigram of Clearchus: L. Robert, De Delphes à l'Oxus. Inscriptions grecques nouvelles de la Bactriane, CRAI (1968), 416—457. For the Greek inscription from the Persian Gulf island of Failaki see below p. 942, n. 1176.

By far the most extensive collection of Greek inscriptions (decrees, dedications, and manumissions) found in Iran comes from Susa: SEG VII.1—28. The most comprehensive commentary on these texts was published by F. Cumont, Nouvelles inscriptions grecques de Suse, CRAI (1930), 208—220; Idem, Inscriptions grecques de Suse, CRAI (1931), 233—250; Idem, Nouvelles Inscriptions Grecques de Suse, CRAI (1932), 271—286; L. Robert, Sur les affranchisements de Suse, RPh (1936), 137—152, specifically on SEG VII.15—26. Although most of the Susa inscriptions are from the third and second centuries B. C. three at least come from early in the present era: SEG VII.1, 13, 14. For the dates of SEG VII.12 and 13, the epigrams of Zamaspes, see F. Cumont, CRAI (1931), 238—250, and A. Wilhelm, Drei griechische Epigramme, GöttNachr 1 (1934—1936), 89—91 and L. Robert cited in: G. Le Rider, Suse, 417. The latest dated text is SEG VII.1 = Welles, RC no. 75, a letter of Artabanus III from A. D. 21, on which see F. Cumont (with M. Holleaux and L. Robert), Une lettre de Roi Artaban III à la ville de Suse, CRAI (1932), 238—260; U. Kahrstedt, Artabanos III, 43; G. Le Rider, Suse, 275—276; N. Pigulevskaja, Les villes de l'état iranien, 85—86. A one-word Greek inscription from the fifth Parthian level at Susa was published by R. D. Ghirshman, Cinq campagnes de fouilles à Suse (1946—1951), RAssyr 46 (1952), 10, pl. 11; cf. J. and L. Robert, BullEpigr (1953), no. 223, who reads Μοῦσα.

For Greek inscriptions from Parthian Mesopotamia see B. Haussoullier, Inscriptions grecques de Babylone, Klio 9 (1909), 352—363, who published two texts from the reign of Mithridates II and a third undated inscription. The British Museum possesses a number of clay tablets bearing transcriptions of Akkadian and Babylonian words into the Greek alphabet, see T. G. Pinches, Greek Transcriptions of Babylonian Tablets, PSBA 24 (1902), 108—119 and A. H. Sayce, The Greeks in Babylonia: Graeco-Cuneiform Texts, ibid., 120—125. Cf. also the two fragmentary Greek transcripts on clay tablets of Babylonian dedications published by W. G. Schileico, Ein babylonischer Weihtext in griechischer Schrift, AOF 5 (1928—1929), 11—13. Eight further fragments in the British Museum are published by E. Sollberger, Graeco-Babylonica, Iraq 24 (1962), 63—72. In general see J. Oelsner, Zur Bedeutung der 'Graeco-Babyloniaca' für die Überlieferung des Sumerischen und Akkadischen, MIO 17.3 (1973), 356—364 who suggests a time period of the first century B.C. to the first century of our era for these curiosities and argues that they represent the final form in which Sumerian and Akkadian texts were preserved after the knowledge of cuneiform disappeared.

As in Iran, almost all of the Greek inscriptions in Mesopotamia fall into the last three centuries B. C., but texts from the period contemporary with the Roman Empire are known: e. g., a Greek verse inscription of the second century from Kamechlieh near Nisibis, SEG VII.45; a Greek text from Uruk dated to A. D. 111, C. MEIER, Ein griechisches Ehrendekret vom Gareustempel in Uruk, MDAI (B) 1 (1960), 104—114 = SEG XVIII.596; cf. L. ROBERT, ΠΑΡΑΣΤΑΣΙΣ ΙΕΡΩΝ, Hellenica 11—12 (1960), 130.

Greek was also one of the major languages at Kandahar in the third century B. C. (cf. also below p. 948, n. 1189). For the bilingual Greek and Aramaic text of one of Aśoka's Rock Edicts found in 1958 at Kandahar see D. SCHLUMBERGER, L. ROBERT and A. DUPONT-SOMMER, Une bilingue gréco-araméenne d'Aśoka, JA 246 (1958), 1—48 (Greek text: 2—3; Aramaic: 20); cf. F. ZUCKER, Mitteilung über eine kürzlich gefundene griechisch-aramäische Bilingue des Königs Aśoka, AAntHung 7 (1959), 104. A Greek text of a similar edict was found at Kandahar in 1963: D. SCHLUMBERGER, Une seconde inscription grecque d'Aśoka, CRAI (1964), 126—140; E. BENVENISTE, Edits d'Aśoka en traduction grecque, JA (1964), 137—157; J. HARMATTA, Zu den griechischen Inschriften des Aśoka, AAnt Hung 14 (1966), 81—85. Both ROBERT and HARMATTA stress that the Greek Aśoka texts are linguistically closely related to the philosophical terminology of Hellenistic Greek. For the Aramaic texts see below p. 948, n. 1189. The date of these texts is also discussed by P. H. L. EGGERMONT, New Notes on Aśoka and his Successors, Persica 2 (1965—1966), 27. Apart from inscriptions on stone, an ostracon and potsherds with traces of Greek letters have also been found in the East. The first find of such an inscribed sherd was made by French archaeologists at Tepe Nimlik in Afghanistan. Three small fragments with traces of Greek letters were found at Aï Khanoum, see: D. SCHLUMBERGER and P. BERNARD, Aï Khanoum, BCH 85 (1965), 633—634 nos. 84—86, figs. 25—26. The Italian excavations at Qala-i Sam in Seistan have yielded the ostracon and four such sherds and another sherd has been found at Udegram in Swat, published by G. P. CARRATELLI, Greek Inscriptions of the Middle East, E & W n. s. 16.1/2 (1966), 34—36, pls. 6—11.

The use of Greek in inscriptions in Iran continued in the Sasanian period. For example, OGIS 434 on the relief of Ardashir I at Naqsh-i Rustam, cf. E. HERZFELD, Paikuli, Monument and Inscription of the Early History of the Sasanian Empire (Berlin 1924), 1.84—86. For the significance of the use of Greek in the great trilingual inscription of Shapur I at Naqsh-i Rustam (see below p. 1057, n. 1705 for details) see H. LUSCHEY, Iran und der Westen, AMI N. F. 1 (1968), 29 and O. KLIMA, in: J. RYPKA et al., History of Iranian Literature, (Dordrecht 1968), 31.

[765] For local glass production in Parthian and Sasanian Mesopotamia see M. N. PONZI, Sasanian Glassware from Tell Mahuz (North Mesopotamia), Mesopotamia 3/4 (1968/69), 369—384 with a third-century date for the glass from the graves at Tell Mahuz. Marbled and millefiori glass and mould-blown vessels were imported into Parthian Dura-Europos from the Roman Empire, C. W. CLAIRMONT, The Excavations at Dura-Europus, Final Report IV. Pt. V: The Glass Vessels (New Haven 1963), 8—26, 56; cf. J. HAYWARD Roman Mold-Blown Glass at Yale University, JGS 4 (1962), 57—58. A number of the glass vessels excavated at Kish have also been attributed to workshops in Egypt and Syria, see S. LANGDON, Excavations at Kish and Barghuthiat 1933, Iraq 1.2 (1934), 131—136 esp. nos 1—3, 5—16, 19—20, 29—35.

As noted above in regard to the heavy volume of traffic between Syria and Babylonia, not only artifacts but also craftsmen could have moved between the two areas. An analogous situation would perhaps be the apparent move of the glassmaker Ennion from Sidon to Italy; see on this D. B. HARDEN, Romano-Syrian Glasses with Mould-Blown Inscriptions, JRS 25 (1935), 164—165 and IDEM, A Roman Sports Cup, Archaeology 11.1 (1958), 5. Mesopotamia in fact appears to have been one of the original centres of glass production; see the documentary evidence in A. L. OPPENHEIM, R. BRILL, D. BARAG and A. VON SOLDERN, Glass and Glassmaking in Ancient Mesopotamia (New York 1970), passim; A. L. OPPENHEIM, Toward a History of Glass in the Ancient Near East, JAOS 93 (1973), 259—266; A. L. OPPENHEIM, JNES 32 (1973), 188—193; for a study of the glass from the second millennium B. C. found at Nuzu, Assur, Dur Kurigalzu, Ur, Babylon and Alalakh, see D. BARAG, Mesopotamian Glass Vessels of the Second Millenium B. C., JGS 4 (1962), 12—21; cf. G. LEHRER, A Phoenician Glass Bowl from Nimrud, JGS 16 (1974), 9—13. H.

Kühne, Bemerkungen zu einigen Glasreliefs des 2. Jahrtausends v. Chr. aus Syrien und Palästina, ZA 59 (1969), 299—318.

For evidence of glass production at Tepe Yahya in the late Parthian and early Sasanian period see C. C. Lamberg-Karlovsky, Excavations at Tepe Yahya, Iran 1967—1969, Progress Report (Cambridge, Mass. 1970), 8, 22. Analysis of the pottery from Seleucia has indicated that a high level of kiln technology was available during the Parthian period in Mesopotamia, see F. R. Matson, A Study of Temperatures used in Firing Ancient Mesopotamian Pottery, in: R. H. Brill (ed.), Science and Technology (Cambridge, Mass. 1971), 73.

[766] See the Talmudic evidence collected in F. Heichelheim, Roman Syria, ESAR 4. 138—140. For role of Jews in Parthian wine-trade see G. Widengren, Iranica Antiqua 1 (1961), 124. For importance of wine-trade in Central Asia see R. C. Agrawala, JOIB 4 (1955), 345—348. Hatra inscription no. 35 mentions a wine merchant, cf. commentary of B. Aggoula, Berytus 18 (1969), 92—93.

[767] For perfume industry see F. Heichelheim, ESAR 4.133—134. Aromatic oils are mentioned a number of times in the Palmyra Tariff: OGIS 629.35, Γόμου κ[αμηλικοῦ] μύρου [ἐν ἀλαβάσ]/τροις, and 40, Γ[όμου καμηλικοῦ μύρου τοῦ ἐν ἀσκοῖς]; also lines 42, 45. For finds of unguentaria at Kish see S. Langdon, Excavations at Kish and Barghuthiat 1933, Iraq 1.2 (1954), 136.

[768] The Palmyrene text of the tariff inscription mentions a tax placed on the import of bronze statues, CIS II.3913.128—130 (Latin translation): *quod attinet ad aereas imagines, statuas, decretum est ut exigantur tanquam aes, et solvat imago ut dimidium oneris, et duae imagines ut onus.* Cf. H. Seyrig, Palmyra and the East, JRS 40 (1950), 4—5, who argues that these bronze statues were imported into Palmyra from Mesopotamia.

[769] See, for example, the survey of Fischer of various unexcavated ruined sites in the basin of the Helmand along the route traced by Isidorus of Charax. K. Fischer, Historical, Geographical and Philological Studies in Seistan by Bosworth, Daffina and Gnoli in the Light of Recent Archaeological Field Surveys, E & W n. s. 21 (1971), 49—51; cf. also P. Daffina, L'immigrazione dei Saka nella Drangiana (Rome 1967), 87—106. K. Fischer, Archäologische Landesaufnahme im Norden von Afghanisch-Sistan 1968—1972, AMI N. F. 6 (1973), 213—230: sites from the Parthian period together with irrigation canals have been found at Qala-i Sam, Kuh-i Khwaja, Sultan Baba Ziyarat; for the last named site see K. Fischer, Rapport préliminaire sur la prospection archéologique du Seistan Septentrional en Octobre 1970, Afghanistan 23.4 (1971), 39—40; for the ruins at Bost (cf. Man.Par. 19) see D. Davary, Die Ruinenstadt Bost am Helmand, AcIr 2 ser. 1 (1975), 201—203; an important survey of Parthian sites in Seistan has been published by W. A. Fairservis, Archaeological Studies in the Seistan Basin of Southwestern Afghanistan and Eastern Iran, APAMNH 48.1 (1961), 99, 101 who reports Parthian sites at Kuh-i Khwaja, Shahristan, Atiskadah and Atish-gah.

Recent (1970) Soviet surveys in Turkmenistan around Annau and the excavation there of a Parthian site (second century B.C. to first century of our era) at Garry-Kiariz indicate that further new material may still be found in this part of the Parthian Empire as well; see V. N. Pilipko, Pamiatniki parfianskogo vremeni v raione Annau, IANTSSR (1973), 5.59—64.

[770] Or in many cases even Roman citizens. For merchants of Egypt see above pp. 644—645. For grants of Roman citizenship to prominent citizens of Palmyra in the second century see H. Seyrig, Syria 22 (1941), 228—230.

[771] Throughout eastern Syria, Mesopotamia and parts of Iran it appears that Greek and various Aramaic dialects were used together side by side throughout the Hellenistic and Roman periods. For the continued widespread use of Aramaic in Syria and Mesopotamia during the Roman Empire see F. Millar, JRS 61 (1971), 1—8. For the parallel survival of Greek culture at Edessa see J. B. Segal, Edessa, The Blessed City (Oxford 1970),

30—31. Evidence for the use of Greek in inscriptions throughout this area is noted above. The language of the inscriptions on the coins of the kingdom of Elymais is first Greek and then Aramaic (the change occurs in the middle of the first century of our era), see W. B. HENNING, AM n. s. 2 (1952), 163—166, 169. The Greek, Aramaic and bilingual inscriptions found at Armazi in the ancient kingdom of Iberia suggest a similar parallelism (see above n. 763). For the use of Aramaic in Armenia see the inscriptions published by A. DUPONT-SOMMER, Les inscriptions araméennes trouvées près du lac Sévan (Arménie), Syria 25 (1948), 53—66, and I. M. DIAKONOV and L. B. STARKOVA, Nadpisi Artaksiia (Artashesa I) tsaria Armenii, VDI (1955), 2. 161—174 (first half of the second century B. C.) There are no inscriptions in Georgian until the fifth century, see M. TARCHNISVILI, Les récentes découvertes épigraphiques et littéraires en Géorgien, Le Muséon 63 (1950), 249—260. At Dura an Aramaic dedication was written with Greek letters, see Inv. Doura 51 republished with extensive commentary by J. T. MILIK, Inscription araméenne en caractères grecs de Doura-Europos et une dédicace grecque de Cordoue, Syria 44 (1967), 289—301.

The documents from the Cave of the Letters include a number of legal documents in Greek recording dealings among Jews and Nabataeans, see H. J. POLOTSKY, The Greek Papyri from the Cave of the Letters, IEJ 12.3/4 (1962), 258—262. In the Roman period both Greek and Aramaic were used side by side in inscriptions in Judaea. See, for example, the inscriptions on architectural remains from Dabbura, where Aramaic predominates (D. URMAN, Jewish Inscriptions from Dabbura in the Golan, IEJ 22.1 [1972], 16—23) and on ossuaries found at Karm esh-Sheikh, where Greek is more frequently used (N. AVIGAD, A Depository of Inscribed Ossuaries in the Kidron Valley, IEJ 12.1 [1962], 1—12). For the dominance of Aramaic ossuaries found around Jerusalem in the first century of our era see W. F. ALBRIGHT, A Biblical Fragment from the Maccabaean Age: The Nash Papyrus, JBL 56 (1937), 157—161; cf. B. LIFSHITZ, L'hellénisation des juifs de Palestine, RB 72.4 (1965), 520—538 who notes after a study of the numerous inscriptions from the great necropolis at Besara that while most Jews were faithful to their customs and traditions, Greek was the language adopted by almost everyone in Palestine for everyday use. Somewhat older are Avroman documents 1 and 2 which are written in Greek and contain contracts pertinent to the sale of two vineyards, see E. H. MINNS, Parchments of the Parthian Period from Avroman in Kurdistan, JHS 35 (1915), 22—49. Avroman document no. 3, written in Pahlavi, shows almost no trace of Greek influence, see A. COWLEY, The Pahlavi documents from Avroman, JRAS (1919), 147—154; J. M. UNVALA, On the three Parchments from Avroman in Kurdistan, BSOS 1.4 (1920), 125—144; A. R. BELLINGER and C. B. WELLES, YCS 5 (1935), 118—119.

Of great importance is the full record from Dura-Europos, but here certain regional and historical peculiarities, such as the Macedonian origins of the town, its nearness to the frontier, and its later occupation by the Roman army, complicate the picture. The predominent language of the parchments, papyri, ostraca and inscriptions from the Seleucid, Parthian and Roman periods is Greek. Latin is used in the documents of the Roman garrison and the Palmyrene inscriptions are primarily connected with the Palmyrene community and its temple of Atargatis in the city. See C. B. WELLES, The Excavations at Dura-Europos, Final Report V, Pt. 1. The Papyri (New Haven 1959): P. Dura 13,14,16,18,19,20, 21,22,23 are all Greek documents of the Parthian period. P. Dura 54—124, the documents of the *Cohors Vicesima Palmyrenorum*, are all in Latin and, of course, from the period of Roman occupation. For the Greek inscriptions from Dura see F. CUMONT, Fouilles de Doura-Europos (1922—1923) (Paris 1926), pp. 255—452, and various authors in the Preliminary Reports (over 90 texts are involved). These are supplemented by a further collection published in R. N. FRYE, J. F. GILLIAM, H. INGHOLT, and C. B. WELLES, Inscriptions from Dura-Europos, YCS 14 (1955), 127—168. The latter publication (168—195) also contains the major collection of Greek ostraca from the site (most previously unpublished). The Palmyrene texts were collected by COMTE DU MESNIL DU BUISSON, Inventaire des inscriptions palmyréniennes de Doura-Europos (Paris 1939): no. 1 from 32 B. C. is the earliest Palmyrene inscription from Dura. To this should be added H. INGHOLT, YCS 14 (1955), 131—137 no. 3 (on this text see above n. 758), and 138—139 no. 5 = Inv. Doura no. 47 and O. Dura 130 (?). For five Safaitic inscriptions in the Palmyrene Gate at Dura see

C. C. Torrey, in: Dura Excavations, Second Season 1928—1929, 172—177. The Pahlavi ostraca and the single Pahlavi parchment from Dura all come from the last years of the city and reflect the practice and language of the Sasanian conquerors (a bibliography and discussion of the chronology is to be found below p. 1066, n. 1734). For the continued influence of Greek law and documentary practice through the Parthian period see C. B. Welles, Dura Parchment I, APF 16 (1958), 6—8.

When the Nisa ostraca were first published it was argued by the editors that the language used in them was Parthian written with Aramaic ideograms. Still upheld in I. M. Diakonov and V. A. Livshits, Peredneaziatskii Sbornik 2 (1966), 140, 149—150. Cf. also R. N. Frye, YCS 14 (1955), 198 (but on the third century Dura ostraca). Most scholars who have studied the documents, however, favour the view that the language of the ostraca is syntactically Aramaic but contained a large number of Iranian technical expressions. See I. N. Vinnikov, O iazyke pis'mennykh pamiatnikov iz Nisy, VDI (1954), 2. 115—128; M. Sznycer, Semitica 5 (1955), 70—72; F. Altheim and R. Stiehl, Supplementum Aramaicum, 54—57; Idem, Geschichte Mittelasiens im Altertum, 470—477; cf. J. Harmatta, The Parthian Parchment from Dura-Europos (Dura Parchment no. 12), AAnt Hung 5 (1957), 294—301, who traces the development of Pahlavi from the Nisa ostraca and the Avroman documents to the Dura ostraca and parchment and argues that in the early period represented by the former documents the Aramaic syntactical system was still in use, but that by the time of the Dura documents and the early Sasanian inscriptions Parthian had become predominant. Cf. now H. Humbach, Aramaeo-Iranian and Pahlavi, AcIr 1 ser. 2 (1974), 237—243.

An ostracon similar to those from Nisa was found in the excavations at Shahr-i Qūmis, see A. D. H. Bivar, The First Parthian Ostracon from Iran, JRAS (1970), 63—66.

Further east Greek and Aramaic are also in use at Kandahar (cf. above n. 764 for the Greek texts). Recently a further Aramaic inscription, this one from Laghman in Afghanistan, has been published: A. Dupont-Sommer, Une nouvelle inscription araméenne d'Aśoka trouvée dans la Vallée du Laghman (Afghanistan), CRAI (1970), 158—173; J. de Menasce, A propos d'une inscription araméenne d'Aśoka, IOS 2 (1972), 290—292. See also a plaque bearing an Aramaic inscription published by A. Dupont-Sommer, Une plaque d'argent à inscription araméenne, Iranica Antiqua 4.2 (1964), 119—132 (third century B.C., Iranian but provenance unknown). For the use of mixed Greek and Aramaic legends on the imitations of the coinage of Euthydemus (i. e. the earliest Sogdian coins) see Allotte de la Fuÿe, Monnaies incertaines de la Sogdiane et des contrées voisines, RN 4 ser. 14 (1910), 303—333 and above n. 633.

[772] The contractual mechanisms for such arrangements developed in both Greece and Babylonia. For partnership and credit arrangements in the documents and law codes of Babylonia in the third and second millennia B. C. see W. Eilers, Gesellschaftsformen im altbabylonischen Recht (Leipzig 1931), 36—37; A. L. Oppenheim, The Seafaring Merchants of Ur, JAOS 74 (1954), 8—11; cf. K. Polanyi, Marketless Trading in Hammurabi's Time, in: K. Polanyi, C. M. Arensberg and H. W. Pearson (eds.), Trade and Market in Early Empires (New York 1957), 12—26, whose study rejects much of the earlier work on the subject. Polanyi's view of the marketless economy of the third millennium is in turn criticised by C. C. Lamberg-Karlovsky, Third Millennium Modes of Exchange and Modes of Production, in: J. A. Sabloff and C. C. Lamberg-Karlovsky (eds.), Ancient Civilisation and Trade (Albuquerque 1975), 341—365; cf. W. Röllig, Der altmesopotamische Markt, Welt des Orients 8.2 (1976), 286—295. Cf. the emphasis on the importance of credit arrangements and of the non-temple and non-governmental branch of commerce in N. B. Iankovskaia, Chastnyi kredit v torgovle drevnei zapadnoi Azii III—II Tys. do n. e., in: Drevnii Vostok, goroda i torgovlia (III—I tys. do n. e.) (Erevan 1973), 17—21 and on the role of the *tamkari* see M. A. Dandamaev, Rol' tamkara v Babylonii II i I Tys. do n. e., in: ibid., 65—77.

For the role of Greek law in Middle Eastern commerce see, for example, the dominance of Greek phraseology and law in P. Dura 28, a Syriac deed of sale of A. D. 243 from Edessa, A. R. Bellinger and C. B. Welles, YCS 5 (1935), 99—115, 124 n. 13, 131 n. 43; cf.

now the re-edition of the text by J. A. GOLDSTEIN, The Syriac Bill of Sale from Dura Europos, JNES 25 (1966), 1—16. For the dominance of Greek law in the Greek Avroman documents see E. H. MINNS, JHS 35 (1915), 59—61. For the Susa manumissions see above n. 764. Greek law is also dominant in all of the Dura documents from the Parthian period, E. SCHÖNBAUER, Rechtshistorische Urkundenstudien zum griechischen Recht im Zweistromlande, APF 12.3/4 (1937), 210—217. For the influence of Roman law in the Eastern provinces and the numerous controversies which surround the degree to which '*Reichsrecht*' rather than '*Volksrecht*' played a leading role see W. SELB, Römisches Recht und östlich geprägte Gegebenheiten, JÖBG 14 (1965), 35—50. The strong impact of Roman law on the Syro-Roman law book has been stressed in W. SELB, Zur Bedeutung des syrisch-römischen Rechtsbuches, MBPAR 49 (Munich 1964), passim, cf. R. YARON, Syro-Romana, Iura 17 (1966), 114—164 who traces instead the impact of various Near Eastern legal systems.

For the development of cheques and bank transfers in Greek banking see J. DESVERNOS, Banques et banquiers dans l'ancienne Egypt, BSAA 6.3 (1928), 326—331; E. LEIDER, Alexandreia, 77—83; E. ZIEBARTH, Hellenistische Banken, ZfN 34 (1924), 36—50; R. BOGAERT, Banques et banquiers dans les cités grecques (Leiden 1968), 307—375, and most recently on the existence of cheques in the first century B. C. see R. S. BAGNALL and R. BOGAERT, Orders for Payment from a Banker's Archive: Papyri in the Collection of Florida State University, AncSoc 6 (1975), 102—108. For the lack of evidence for the use of letters of credit in commercial transactions see E. J. JONKERS, 'Wechsel' und 'Kreditbriefe' im Römischen Altertum, Mnemosyne 3 ser. 9.3 (1941), 182—186. The most well-known *permutatio pecuniae* is described by Cicero ad Att. XI.1.2 = no. 211.2 (D. R. S. BAILEY).

It had been argued that the Talmudic strictures on mortgage and security were of Persian origin, but this is rejected by A. KOBER, Zur Frage fremder Einflüsse auf das rabbinische Recht, MGWJ 79 (1935), 384—388. Important insight into second century legal practice in Judaea is gained from the Murabba'at documents; see P. BENOIT, J. T. MILIK and R. DE VAUX, Discoveries in the Judaean Desert II, Les grottes de Murabba'at, Texte (Oxford 1961), P. Mur. 7—48 (contracts and letters in Hebrew and Aramaic). P. Mur. 89—102, 114—125 (accounts and contracts in Greek). Cf. M. R. LEHMANN, Studies in the Murabba'at and Naḥal Ḥever Documents, RQ 4.1 (1963), 53—81 who stresses the rigorous adherence to Talmudic legal practice found in these documents (LEHMANN also corrects the dating of P. Mur. 18, 22, 23, 29 and 30: pp. 55—58).

An eighth century compilation of Sasanian law by Ishobokt (surviving in a Syriac translation of the twelfth to fourteenth centuries) deals in book five with the laws and customs of trade, risk, contracts, credit and commercial companies, see N. V. PIGULEVSKAIA, Economic Relations in Iran during the IV—VI Centuries A. D., The K. R. Cama Oriental Institute 38 (1956), 62—81; IDEM, Les Villes de l'État Iranien, 106—111. The text is now published together with a translation into Russian by A. G. PERIKHANIAN, Sasanidskii Sudebnik (Erevan 1973) (a copy of which I owe to the kindness of Professor I. F. FIKHMAN). To the bibliography given there add S. SHAKED, Some Legal and Administrative Terms of the Sasanian Period, AcIr 2 ser. 2 (1975), 213—225.

[773] See recently M. I. FINLEY, The Ancient Economy, 155—166 and S. LAUFFER, Das Wirtschaftsleben im Römischen Reich, in: H. J. HEYDORN and K. RINGSHAUSEN (eds.), Jenseits von Resignation und Illusion (Frankfurt/M. 1971), 140—141; cf. H. KREISSIG, Klio 56 (1974), 524.

[774] The bibliography of Palmyra has within the last fifty years become so extensive that it is impossible to cite here more than a few of the major excavation reports used in this study: T. WIEGAND (ed.), Palmyra: Ergebnisse der Expeditionen von 1902 und 1917 (Berlin 1932), 2 vols; K. MICHALOWSKI, Palmyre, Fouilles polonaises 1959 (Warsaw 1960); IDEM, Fouilles polonaises 1960 (Warsaw 1962); ibid., 1961, 1962, 1963—1964 (Warsaw 1963—1966). M. GAWLIKOWSKI, Die polnischen Ausgrabungen in Palmyra (1959—1967), AA (1968), 289—307. A. BOUNNI and N. SALIBY, Six nouveaux emplacements fouillés à Palmyre (1963—1964), AAS 15.2 (1965), 123—138. A. BOUNNI and N. SALIBY, Fouilles de l'annexe de l'agora à Palmyre. Rapport préliminaire, AAS 18 (1968), 93—102;

A. Bounni, En mission à Palmyre; bilan de dix années d'explorations et découvertes, Archéologia 16 (1967), 40—49; A. Ostraz, Note sur le plan de la partie mediane de la rue principale de Palmyre, AAS 19 (1969), 109—120. Comte du Mesnil du Buisson, Première campagne de fouilles à Palmyre, CRAI (1966), 158—187; P. Collart and J. Vicari, Le sanctuaire de Baalshamin à Palmyre: Topographie et Architecture, 2 vols. (Rome 1969); R. Fellmann, Le Sanctuaire de Baalshamin à Palmyre: Die Grabanlage (Rome 1970). A bibliography for Palmyrene epigraphy may be found in J. K. Stark, Personal Names in Palmyrene Inscriptions (Oxford 1971), 145—152, but this appears to include nothing published after 1968. Since then further texts from the Polish excavations have been published as well as C. Dunant, Le sanctuaire de Baalshamin à Palmyre 3: Les inscriptions (Rome 1971) and the important study of J. T. Milik, Dédicaces faites par des Dieux (Palmyre, Hatra, Tyr) et des thiases sémitiques à l'époque romaine (Paris 1972).

For general studies of the city see J. G. Février, Éssai sur l'histoire politique et économique de Palmyre (Paris 1931) and J. Starcky, Palmyre (Paris 1952). A unique addition to our knowledge about the city is made by recent aerial photographs, see D. P. Crouch, Use of Aerial Photography at Palmyra: A Photo Essay, Berytus 23 (1974), 71—104, figs. 1—15.

[775] This is virtually certain from a number of pieces of evidence: Germanicus sent a Palmyrene, Alexander, on a diplomatic mission to Messene (cf. the Palmyrene text published by J. Cantineau, Textes palmyréniens provenant de la fouille du temple de Bel, Syria 12 [1931], 139 no. 18). The legate of the *legio X Fretensis* erected statues of Tiberius, Germanicus and Drusus in the temple of Bel: H. Seyrig, Antiquités syriennes 9: L'incorporation de Palmyre à l'empire romain, Syria 13 (1932), 274—276 no. 1 = AE (1933) no. 204 = Inv. IX.2; cf. the summation of the evidence by H. Seyrig, ibid., 266—269. CIS II.4122 = Inv. VII.6 (A. D. 79/80) identifies the builder of a tomb in the northwest necropolis at Palmyra as belonging to the φυλή Κλαυδιάς. The 'tribe' has been named in honour of one of the Julio-Claudian emperors and appears to be from the locality of the city; see D. Schlumberger, Les quatre tribus de Palmyre, Syria 48 (1971), 123. Latin is used in the inscription of an official decree of the city in A. D. 74. For the trilingual text see J. Cantineau, Tadmorea, Syria 14 (1933), 174—176 no. 2b. The earliest known use of Latin in an inscription from Palmyra occurs in a trilingual inscription; see text published by M. Rodinson, Une inscription trilingue de Palmyre, Syria 21 (1950), 136—139; cf. IGR III.1539 = CIS II.4235 = VIII.57 from A.D. 58; cf. also a Latin text of A.D. 63: H. Seyrig, Syria 22 (1941), 175.

It has also been argued that the earliest fortification walls of the city go back to the Julio-Claudian period, see above p. 769, n. 540. A milestone from Arak northeast of Palmyra from A. D. 75 indicates that in that year the governor of Syria M. Ulpius Traianus was constructing a road from Palmyra to Sura on the Euphrates; H. Seyrig, Syria 13 (1932), 276—277 n. 2 = AE (1933), no. 205; cf. G. W. Bowersock, JRS 63 (1973), 133, 136. cf. C. Dunant, Le sanctuaire de Baalshamin à Palmyre, 3: Les inscriptions, no. 30 which mentions Θεὸς Σουρηνός in A.D. 73/74 or 173/174. Finally the evidence of the Palmyra Tariff is important. The best analysis of this, from the point of view of the role of the Roman governors of Syria in shaping its various earlier versions, is H. Seyrig, Syria 22 (1941), 155—170. Cf. now A. Baldini, Epigraphica 36.1/2 (1974), 118—126.

On the status of Palmyra as an autonomous city in the Roman Empire see also I. A. Richmond, Palmyra under the Aegis of Rome, JRS 53 (1963), 44 (brought into empire under Tiberius); so also D. van Berchem, CRAI (1970), 231—237; G. W. Bowersock, JRS 63 (1973), 136; cf. E. W. Gray, A Review of M. A. R. Colledge, The Parthians . . ., CR n. s. 19 (1969), 78, who suggests a date of 30 B. C..

The early history of Palmyra is still somewhat obscure, but less so than a decade ago. It first finds mention in classical authors in the description of a raid on the town by Antony's cavalry in Appian, BC V.9. (It was thought that an earlier reference might be found in the fragments of Uranius, FGrHist no. 675.F11: Πάλμυρα· φρούριον Συρίας, οὗ μέμνηται Οὐράνιος ἐν 'Αραβικῶν $\bar{\beta}$. Aly suggested that Uranius wrote in the period

80—48 B. C., W. Aly, Strabon von Amaseia [Bonn 1957], 179—190; followed by J. Pirenne, Le royaume sud-arabe de Qataban et sa datation [Louvain 1961], 141—144. But this is definitely wrong. The very fragment cited suggests a terminus post quem of A. D. 272 and Uranius most probably should be placed in the fourth century; see J. M. West, Uranius, unpublished Harvard thesis [Cambridge 1973], 117—118). A recently published Aramaic inscription of the time of Aśoka from Laghman contained the toponym Tadmor (*Tdmr*), see A. Dupont-Sommer, CRAI (1970), 166, 168, who identifies the place as Palmyra. This would be the earliest testimony for the importance of this city in overland commerce; so also F. Altheim and R. Stiehl, Die Handelsstraße von Layman nach Tadmor, Klio 54 (1972), 61—66 who republish the text; cf. J. de Menasce, IOS 2 (1972), 291, who reads *Trmd* (Tirmid) on the Oxus. The existence of a town by the name of Tadmor is mentioned already in a number of Assyrian inscriptions, see P. Dhorme, Palmyre dans les textes assyriens, RB (1924), 106—108. New excavations on the site of the temple of Bel have suggested that the earliest temple may go back to the early third century B.C., see Comte du Mesnil du Buisson, CRAI (1966), 185. (The next lowest level at the site found in these excavations is from the Bronze Age, see Comte du Mesnil du Buisson, Découverte de la plus ancienne Palmyre, ville amorite de la fin du IIIe millénaire, Archéologia 16 [1967], 50—51.) The excavations in the sanctuary of Baalshamin have yielded a cemetery which goes back to the middle of the second century B.C., see R. Fellmann, La sanctuaire de Baalshamin à Palmyre: Vol. V. Die Grabanlage, 111—119.

Most of the structures presently visible at the site, however, come from a later period. The earliest of the great buildings, the temple of Bel, was built in the early decades of our era (see above p. 723, n. 288). The earliest of the distinctive tower tombs in which the rich of Palmyra were buried come from the same period. See E. Will, Le relief de la tour de Kithot et le banquet funéraire à Palmyre, Syria 28 (1951), 72; M. Gawlikowski, Monuments funéraires de Palmyre, 45—47, and Idem, Palmyrena, Berytus 19 (1970), 81. The earliest inscriptions from the site come from 44 and 24 B.C., see J. Starcky, Inscriptions archaïques de Palmyre, in: Studi orientalistici in onore di Giorgio Levi della Vida (Rome 1956), z. 512—514, nos. 1—2; no. 2 = Inv. XI.100. A further important archaic text (but undated) was found by the Polish excavators in 1959, see K. Michalowski, Palmyre. Fouilles polonaises 1959, 215, no. 10, pl. 234; cf. the considerably different readings in J.T. Milik, Dédicaces faites par des Dieux, 286—287; cf. republication with commentary in M. Gawlikowski, Liturges et custodes sur quelques inscriptions palmyréniennes, JNES 32 (1973), 113—118.

[776] Pliny, NH V. 88 describes Palmyra as *velut terris exempta a rerum natura, privata sorte inter duo imperia summa Romanorum Parthorumque, et prima in discordia semper utrimque cura.* The date of its incorporation into the Roman Empire was formerly fixed in the reign of Trajan; e. g., see J. G. Février, Éssai, 13—24, from whose arguments it is clear that Pliny's statement is the source of this erroneous belief. The statement of Pliny continues to be regarded as good contemporary evidence even in some recent works: e. g. see K.-H. Ziegler, Die Beziehungen zwischen Rom und dem Partherreich, 51, 81, 87, n. 304, who speaks of the city's „*weitgehende Autonomie*" and „*quasi neutrale Stellung*" in the first century and even posits the existence of a treaty between Rome and Parthia to ensure the continuance of this situation. While Ziegler fails to recognize the existence of a problem, M. Lemosse, Le régime des relations internationales dans le Haute-Empire romain (Paris 1967), 100—104 defends Pliny against his critics. He argues that Palmyra enjoyed a position of independence analogous to that of the Bosporan kingdom. Although Lemosse is correct that each individual piece of evidence cited is not conclusive (e. g. the presence of a Roman garrison — see above p. 782, n. 583 — or the regulation of the city's taxes), the coincidence of all of these points makes it highly probable that Rome firmly controlled the city by the death of Tiberius. The date of the Pliny passage should probably be referred to the same time as Appian, BC V.9, who reports that Antony charged ὅτι 'Ρωμαίων καὶ Παρθυαίων ὄντες ἐφόριοι ἐς ἑκατέρους ἐπιδεξίως εἶχον (ἔμποροι γὰρ ὄντες κομίζουσι μὲν ἐκ Περσῶν τὰ 'Ινδικὰ ἢ 'Αράβια, διατίθενται δ'ἐν

τῇ ʽΡωμαίων). The Pliny passage is given new support by A. Baldini, Epigraphica 36. 1/2 (1974), 116—118, 133 who sees it as only a few years out of date.

[777] The nomadic tribes who migrated seasonally into the territory of Palmyra provided excellent military material and a ready-made military organizational structure. This interaction of nomads with urban communities in Mesopotamia goes back at least into the second millennium B.C. See the interesting anthropological studies of this phenomenon of "enclosed nomadism" and its political effects in M. B. Rowton, Autonomy and Nomadism in Western Asia, Orientalia 42 (1973), 247—248; Idem, Enclosed Nomadism, JESHO 17 (1974), 1—30. Palmyra appears from the evidence to be a modified example of what Rowton terms a 'dimorphic chiefdom'. See his definition in 'Urban Autonomy in a Nomadic Environment', JNES 32 (1973), 202—204. For the survival of mixed forest cover and pasture in present desert regions of Jebel Abu Rigmein north of Palmyra see M. B. Rowton, The Woodlands of Ancient Western Asia, JNES 26 (1967), 273—274, who notes that a woodland region may also have existed south of Palmyra. The evidence for settled pastorialism in the hills to the northwest of Palmyra has been collected by D. Schlumberger, La Palmyrène du Nord-Ouest (Paris 1951), 129—134, who describes numerous villages (e. g., pp. 9, 13—22, Khearbet Semrine; 23—24, Ras ech-Chaar; 25—26, Khearbet Farouane) and cisterns in the region. In general see B. Spooner, The Status of Nomadism as a Cultural Phenomenon in the Middle East, JAAS 7 (1972), 122—130 who notes that the mixture of both cultivation and herding (the degree of each depending on the resources available) was a normal feature of Near Eastern nomadism.

The northward movement of Arab tribes into eastern Syria and northern Mesopotamia appears to have been an important factor in the formation of the powerful city-states of the region. E. Herzfeld, Hatra, ZDMG 68 (1914), 665—667 on Arab foundation of Hatra. See the important study of R. Dussaud, La pénétration des Arabes en Syrie avant l'Islam (Paris 1955), 90—161. For the Arab penetration of Palmyra see H. Seyrig, Antiquités syriennes 89: Les dieux armés et les Arabes en Syrie, Syria 47 (1970), 87—92; H. J. W. Drijvers, The Cult of Azizos and Monimos at Edessa, in: Ex orbe religionum: Studia Geo Widengren oblata, 1 (Leiden 1972), 359—362 (specifically on Edessa) and for the evidence of Nabataeans at Palmyra see J. Teixidor, The Nabataean Presence at Palmyra, JANES 5 (1973), 405—409.

The Bedouin movement into or through the territory of Palmyra is also attested by the presence of Safaitic inscriptions; e. g., J. Starcky, Les inscriptions, Syria 26 (1949), 38, no. 3 (possibly from Palmyra); H. Ingholt and J. Starcky, in: D. Schlumberger, La Palmyrène du Nord-Ouest, nos. 2 quater, 21 bis, 34 ter, 54, 60, 63 bis, 63 quater, 80, 81, and 82; cf. also E. Littmann, Safaitic Inscriptions (Leiden 1943), no. 217, who, however, suggests that Dussaud's reading *MSḤ* (Tell Māsiḥ, a village near Aleppo) should perhaps be changed to *ML[Ḥ]* (Melah, a village in the Hauran mountains). For the Safaitic graffiti from the Palmyrene Gate at Dura see C. C. Torrey, in: Dura Excavations, Second Season, 1928—1929, pp. 175—177, fig. 25—29. Two of the texts mention camel caravans and the tribes Kalb and Ḍabba (both from Arabia); cf. E. Littmann, Ṣafa-Inschriften, in: Mélanges syriens offerts à M. René Dussaud (Paris 1939), 2.661—671. A group of inscriptions found in Wadi Hauran included one Safaitic text and two Safaitic-Aramaic bilinguals all probably from A.D. 98, see: Inscriptions from Wadi Hauran, Sumer 20 (1964), p. 15 no. 3, p. 17 no. 6 and p. 18 no. 7. The most westerly Safaitic texts have been found on Mount Arsal in Lebanon, see G. L. Harding, Safaitic Inscriptions from Lebanon, ADAJ 16 (1971), 83—84, nos. 1—2; for the historical implications see C. Ghadban, Un site safaitique dans l'Antiliban, ibid. 79—82.

[778] That the large territory of Palmyra also possessed considerable agricultural resources in antiquity is suggested by Pliny's description: *Palmyra urbs nobilis situ, divitiis soli et aquis amoenis* . . . (NH V. 88). A Palmyrene inscription from Qasr Helqum refers to the *ḤṢDY'* or cultivators active there; text published by J. Teixidor, Deux inscriptions palmyréniennes du musée de Bagdad, Syria 40 (1963), 33—37. For the remains of a dam and canals at Harbaqa see A. Poidebard, La trace de Rome dans le désert de Syrie (Paris 1934), 187—190, who also notes a canal in Wadi al-Kebir and a large installation

at Qasr al-Her. The importance of olive oil production at Palmyra is indicated by a bronze tessera which on one face designates Bel with the title 'Protector of Olives': Comte du Mesnil du Buisson, Les tessères et les monnaies de Palmyre (Paris 1962), 21, 23. This suggests that possibly the region of massive concentration on olive growing which Tchalenko argued was the basis for the prosperity of the Belus Massif may have extended southwestwards into the territory of Palmyra, see G. Tchalenko, Villages antiques de la Syrie du Nord, le massif du Belus a l'époque romaine, BAH 50.1 (Paris 1953), passim and M. Rodinson, De l'archéologie à la sociologie historique. Notes méthodologiques sur le dernier ouvrage de G. Tchalenko, Syria 38 (1961), 178—181, 184—186, 192—193.. The etymology of the city's name, Tadmor (*TDMWR*) from *tāmār* (date-palm), cannot, however, be used as evidence for the productivity of the soil since this derivation is impossible, see J. K. Stark, Personal Names in Palmyrene Inscriptions, p. 116 s. v. *TDMWR*; cf. now M. Gawlikowski, Le Tadmoréen, Syria 51 (1974), 91—93; but the oasis was known for its exports of palm products, see the Talmudic material collected in J. Joel, Beiträge zur Geographie des Talmud, MGWJ 16 (1867), 331—335. For the type of water-raising device probably used to irrigate the desert around Palmyra see the *noria* depicted on a mosaic from Apamea in F. Mayence, La troisième campagne de fouilles à Apamée, BMRAH 3 ser. 5.1 (1933), 5, fig. 5. In general on the potential high crop yields in Syria see the Talmudic evidence in D. Sperber, Trends in Third Century Palestinian Agriculture, JESHO 15 (1972), 247—255.

[779] In general on the economy of Palmyra see J. G. Février, Éssai, 49—63. It is frequently assumed that Palmyra and other 'caravan cities' lived only from commerce, since at present the lands surrounding them are most unsuited for agriculture, so M. Rostovtzeff, Caravan Cities (Oxford 1932), 107—115; M. A. Stein, JRAS (1941), 300—307. For the caravan inscriptions see M. Rostovtzeff, Les inscriptions caravanières de Palmyre, Mélanges Gustave Glotz (Paris 1932), 2.793—811; Idem, Une nouvelle inscription caravanière de Palmyre, Berytus 2 (1935), 143—148; H. Ingholt, Syria 13 (1932), 289—291; H. Seyrig, Syria 22 (1941), 252—258; C. Dunant, Nouvelle inscription caravanière de Palmyre, MH 13 (1956), 216—225 = SEG XV.849; also Inv. IX.30; X.7, 19, 29, 38, 81, 89, 90, 96, 107, 111, 112, 114, 124, 127. The conclusions about the organization of the Palmyrene caravan trade reached by Rostovtzeff, in: Mélanges Glotz 2.793—811 have all been subjected to a new analysis by E. Will, Marchands et chefs de caravanes à Palmyre, Syria 34 (1957), 262—277. Will's reconstruction brings our knowledge of the caravan trade into closer agreement with recent studies on the structure of Palmyrene society. Further epigraphic evidence has come to light to show that the men honoured by the caravan inscriptions from the agora in Palmyra were great magnates possessing not only monetary wealth, but also great agricultural holdings which provided them with military forces, see the publication of a new Palmyrene inscription which may mention Marcus Ulpius Abgar, the son of Hairan, by J. Teixidor, Deux inscriptions palmyréniennes du musée de Bagdad, Syria 40 (1963), 33—34; cf. J. Starcky, Une inscription palmyrénienne trouvée près de l'Euphrate, Syria 40 (1963), 47—55.

Perhaps some indication of the type of men honoured in the inscriptions may be gained from Josephus, AJ XVII.23—31, the story of Zamaris and his sons. Zamaris, a Babylonian Jew, had crossed the Euphrates from Parthia to settle in Syria with a personal force of 500 mounted archers and 100 kinsmen. He was first settled at Holath Antioch by C. Sentius Saturninus, the governor of Syria (9—6 B.C.), but apparently dissatisfied with this, Zamaris accepted an invitation from Herod to settle in Batanaea with a semi-independent and tax-free status. Here he built a fortress and a village and used his cavalry to protect Herod's kingdom against raids from the Trachonites. See on Zamaris C. H. Kraeling, The Jewish Community at Antioch, JBL 51 (1932), 141—142; J. Neusner, A History of the Jews in Babylonia, 1.41—43.

[780] For probable site of Vologesias see A. Maricq, Classica et Orientalia 7: Vologesias, l'emporion de Ctésiphon, Syria 36 (1959), 264—276 = Idem, Classica et Orientalia, 113—126; cf. J. Neusner, Parthian Political Ideology, Iranica Antiqua 3 (1963), 52, who links the founding of the city to commercial motives; cf. M.-L. Chaumont, Les villes fondées par

les Vologèse, Syria 51 (1974), 77—81 who rejects Maricq's identification and locates Vologesias west of the Euphrates and Vologesocerta near Seleucia. For Vologesias in the Palmyrene inscriptions see Inv. III.21, 29; IX.14, 15; X.112, 124; SEG VII.135; C. Dunant, MH 13 (1956), 217 = SEG XV.849.

The question of where in Babylonia the caravans went to before Vologesias was built is raised by these inscriptions. A very fragmentary and difficult text, CIS II.3924—3925 = Inv. IX.6 (A.D. 19) may provide an answer: [. . . . . οἱ ἐν Σελευ]/[κείᾳ ἔμπ](ο)-[ρ](οι Πα)[λμυρηνοί] / [καὶ Ἕλλην](ε)ς . . . The Greek is restored from the Palmyrene text where *SLWKY'* (Seleucia) can be read (line 4). The toponym is unknown in Semitic epigraphy but the proper name Seleucus is well attested: in Hatra inscription no. 5 line 2 the name *SLYK* occurs and Caquot suggests the reading *SLWK* in several Palmyrene texts: CIS II.3.3934 = Inv. III.14 (*SLWQWS*) and CIS II.3.3935 = Inv. III.15 (*SLWQWS*); cf. *SLWQS* in H. Ingholt, Inscriptions and Sculptures from Palmyra, II, Berytus 5 (1938), 104 and in a Syriac inscription, A. Maricq, Classica et Orientalia. 8. La plus ancienne inscription syriaque: celle de Birecit, Syria 39 (1962), 99—100 = Idem, Classica et Orientalia, 127—140, where *SLW[K]* is restored by Maricq. A Palmyrene inscription of A.D. 24 from the temple of Bel contains a dedication made by the merchants resident in Babylon, see J. Cantineau, Textes palmyréniens provenant de la fouille du Temple de Bel, Syria 12 (1931), 122.

[781] For Spasinou Charax in the Palmyrene inscriptions see Inv. III.29; J. Cantineau, Inscriptions palmyréniennes, RAssyr 27 (1930), 25, no. 34; H. Seyrig, Syria 22 (1941), 252—253, nos. 21—21bis; 256, no. 22. For identification of the ancient site of Charax from aerial photographs see J. Hansman, Charax and the Karkheh, Iranica Antiqua 7 (1967) (= Mélanges Ghirshman II), 27—53, 58. Charax Spasinou was probably also a major pearl market, since the Persian Gulf was a great pearling-ground in antiquity, see Isidorus of Charax, FGrHist no. 781.F1; Chares of Mytilene, FGrHist no. 125.F3. For the importance of the theme of the quest for the pearl in Syriac literature see B. C. Colless, The Traders of the Pearl I, Abr Narain 9 (1969/70), 27—29. For the evidence for pearling in the Persian Gulf from Arab sources and modern observation see G. Rentz, Pearling in the Persian Gulf, UCPSP 11 (1951), 397—402 and M. Mokri, La pêche des perles dans le Golfe Persique, JA 248 (1960), 381—396.

[782] The ἔμποροι of Palmyra had a permanent community in Vologesias and one of their number, Soades, the son of Boliades, counted among his accomplishments κτίσαντα / [ἐ]ν 'Ολογα[σίᾳ ναὸν τῶν Σε]βαστῶν. See the publication of the text and commentary by R. Mouterde, La voie antique des caravanes entre Palmyre et Hit au IIe siècle ap. J.C., Syria 12 (1931), 105—115; cf. CIS II.3917 = Inv. IX.15 in which Aqqaih is honoured because he adorned the sanctuary of the Palmyrene gods in Vologesias.

A Palmyrene fondak is also known from Dura Europos. The dedication there of the temple of Bel and Yaribol was cut in 32 B.C. (Inv. Doura no. 1). The fondak, like the temple, probably also goes back to the first century B.C. and the great temple to the gods of Palmyra was founded in the first century of our era (cf. Inv. Doura nos. 28, 31, 38). For Inv. Doura nos. 28—30 see M. Rostovtzeff, Le Gad de Doura et Seleucus Nicator, in: Mélanges syriens offerts à M. René Dussaud, 1.281—284, 290—291; see also M. Gawlikowski, A propos des reliefs du temple des Gaddê à Doura, Berytus 18 (1969), 105—109.

For the Palmyrene presence in Spasinou Charax see above n. 781. A Palmyrene connexion with the port of Forat in Characene is suggested by a bilingual text from the agora in Palmyra: a dedication is set up to ———/ [τοῦ 'Α]λ̣εξάν̣δ̣[ρου ἄρχοντα ?] / [Φορ]αθων τῆς περ[ὶ Σπασινου] / [Χα]ρακα by ἡ μετὰ Μαλχο[υ τοῦ / 'Αζ]ειζου παραγενομένη / ἀπ[ὸ τ]οῦ Χαρακος εἰς Παλμυρα / (καὶ) 'Ολογασίαν συνοδία, H. Seyrig, Syria 22 (1941), 252—253, no. 21 = Inv. X.38. In OGIS 632 = IGR III.1052 = Inv. IX.14 ἔμποροι ἀπὸ Φοράθου κὲ / 'Ολαγασιάδος . . . are mentioned.

[783] The senate of Palmyra in A.D. 138 honours a certain Yarhibol for an embassy to Susiana (Elymais), see text above n. 721. For possible influence of Palmyrene on the Elymaean dialect in the Tang-i Butan inscriptions see A. D. H. Bivar and S. Shaked, The Inscrip-

tions at Shimbar, BSOAS 27 (1964), 279—280. The existence of a very active commerce between Seleucia on the Tigris and Susa is suggested by the large numbers of bronze coins of the former from both the Seleucid and Parthian periods found in the latter; G. Le Rider, Suse, 299—300, 302—306, 308, 405—408, 430—432; and Idem, Les monnaies de bronze de Séleucie du Tigre à Suse sous les Séleucides et les Parthes et la navigation dans le Golfe Persique, in: M. Mallot (ed.), Sociétés, 121—127. Cf. also bronze coins of Charax found in Susa, G. Le Rider, Syria 36 (1959), 229—240.

[784] A substantial Palmyrene presence has been noted in an archaeological survey of the island of Kharg in the Persian Gulf. See R. Ghirshman, L'île de Kharg (Ikaros) dans le Golfe Persique, RA 6 ser. (1959), no. 1.75—77, and Idem, L'île de Kharg dans le Golfe Persique, Arts Asiatiques 6.2 (1959), 107—120. Ghirshman mentions three large necropoleis, funeral reliefs and a large residential quarter on the island. His identification of the island as ancient Ikaros was subsequently disproved by the discovery of a new Greek inscription, see below p. 942, n. 1176. A brief description of the remains with three plans was published by W. Kleiss, AMI N. F. 6 (1973), 77—80 and a new study of the Palmyrene tombs was made E. Haerinck, Quelques monuments funéraires de l'île de Kharg dans le Golfe Persique, Iranica Antiqua 11 (1975), 134—159 who agrees with the attribution of the tombs to Palmyrene families. The Nestorian church and monastery of the Sasanian period on this island is described by J. Bowman, The Sasanian Church in the Kharg Island, AcIr 1 ser. 1 (1974), 217—220.

[785] Syria 22 (1941), 259 no. 23, 3—4: [ἔ]μποροι οἱ ἀν[αχ]θέντες ἀπὸ Σκυθ[ίας] / [ἐν] πλύω Θνα[ιν]ου 'Αδδουδανου ... (A.D. 157) and ibid, 260, lines 2—3: [... οἱ ἀναχθέντες ἀπὸ] / Σκυθίας ἐν πλοίῳ βε[ελαίου ...] / ἔμποροι. Published with commentary by H. Seyrig, Syria 22 (1941), 258—263, no. 23, and Idem, Inscription relative au commerce maritime de Palmyre, Mélanges F. Cumont (Bruxelles 1936), 397—402. Also H. Seyrig, Palmyra and the East, JRS 40 (1950), 6. For Marcus Ulpius Yarhai, the son of Hairan honoured in the first text see below n. 878. For Palmyrene text of the second inscription see J. Cantineau, Syria 14 (1933), 187—188, no. 10. Cf. now the reconstruction of the Greek and Palmyrene text (Inv. X.96) offered by J. T. Milik, Les papyrus araméens d'Hermoupolis et les cultes syro-phéniciens en Egypte perse, Biblica 48.4. (1967), 616 and Idem, Dédicaces faites par des dieux, 33. Apart from these texts other evidence for Palmyrene activity at sea is slight: in CIS II.4047 Lishansh asks for protection on land or sea; a sculptured slab found in Qasr el-Hayyeh near Palmyra shows a passenger standing in the stern of a ship under sail, see H. Ingholt, Gandharan Art in Pakistan (New York 1957), 26, pl. VI.2; cf. a very similar ex-voto bronze ship found in Aithenit in Lebanon published by H. Seyrig, Antiquités syriennes, 47. Antiquités de Beth-Mare, Syria 28 (1951), 101—113, who suggests that the ship was built as an armed merchantman. For the possibility (the evidence from the motifs studied is inconclusive at best) of Indian influence on decorative art at Palmyra see H. Seyrig, Ornamenta Palmyrena antiquiora, Syria 21 (1940), 290—291 and M. Chandra, BPWM 7 (1959/62), 1—2, cf. now the discovery of what has been described as a Gandhara relief in the excavations at Choche (Ctesiphon), A. Invernizzi, A Relief in the Style of the Gandhara School from Choche, Mesopotamia 3/4 (1968/69), 145—158 (suggests that possibly Siva is depicted; stratum dated to fourth century).

[786] In 1956 two grave *stelai* with Palmyrene inscriptions were found in the district of Vekil'-Bazar in Soviet Turkmenistan. They are dated to the late second and early third centuries, see M. E. Masson, Two Palmyrene Stelai from the Merv Oasis, E & W n. s. 17 (1967), 239—247, figs. 1—4; cf. the revised readings in F. Altheim and R. Stiehl, Geschichte Mittelasiens im Altertum, 704—706. The two *stelai* are somewhat mysterious. They were found just below the surface of the ground in an area which has yielded no other traces of ancient occupation in the vicinity. More suspicious still is the fact that photographs of both were published in 1894 from prints originally in the possession of the director of the Tiflis Museum. Masson by careful detective work attempts to dispose of the possibility of a modern importation of these objects to Merv and suggests that they were sent from Palmyra to a

merchant colony in Merv. The size and weight of both *stelai* makes them rather unlikely objects to be transported on a camel 1600 km from Palmyra! For the wide dispersal of Palmyrene funeral reliefs during the past century see J. STARCKY, Inscriptions palmyréniennes conservées au Musée de Beyrouth, BMB 1 (1955), 30.

There is also epigraphic evidence that Palmyrenes followed the caravan routes north towards Armenia. Two undated Palmyrene inscriptions have been found at Der Ya'qub near Edessa. The texts were formerly identified as Syriac, so J. B. SEGAL, Pagan Syriac monuments in the Vilayet of Urfa, AnSt 3(1953), 116; cf. his identification of both texts as Palmyrene in IDEM, Some Syriac Inscriptions of the 2nd—3rd Century A. D., BSOAS 16 (1954), 31 n. 1. Also see CIS II.3960 = RES 2135: οἱ ἀναβά/ν[τε]ς [ἀπ]ὸ [Χουμά]νων ἔνποροι, cf. J. G. FÉVRIER, Essai, 57 who suggests [ἀπ]ὸ [Ὑρκα]νῶν. Toward the south of Palmyra see also two other interesting texts: W. G. OXTOBY, Some Inscriptions of the Safaitic Bedouin, American Oriental Series 50 (New Haven 1968), pl. XIX published the photograph of a Palmyrene graffito in Wadi Miqat; cf. transcription in A. CAQUOT, Review of W. G. OXTOBY, Some Inscriptions . . . ., Syria 47 (1970), 413 and J. TEIXIDOR, Bulletin d'épigraphie sémitique, Syria 49 (1972), 443 no. 162; in LITTMANN, Safaitic Inscriptions, no. 717 a Bedouin records his visit to Palmyra (from Senaiyim ie-Gharz).

[787] W. M. FLINDERS PETRIE, Dendereh 1898 (London 1900), 33, p. XXV = CIS II.3910. cf. C. CLERMONT-GANNEAU, Inscription gréco-palmyrénienne d'Égypte, RAO 5 (1903), 300—306. A Nabataean inscription from Tell el-Shughāfīya dated by CLERMONT-GANNEAU to 48—30 B.C. mentions a person whose name has been obliterated, the son of Yarḥibōlā. The name is Palmyrene (see J. K. STARK, Personal Names in Palmyrene Inscriptions, 26—27 s. v. *YRḤBWL'*) and suggests that already in the last years of the Ptolemies a man from Palmyra had come to Egypt. See C. CLERMONT-GANNEAU, RAO 8 (1924), 229—257; E. LITTMANN, Nabataean Inscriptions from Egypt — II, BSOAS 16.2 (1954), 227—230 no. 81. For the road from Syria to Babylon above Memphis in the Roman period see A. ALT, Stationen der römischen Hauptstraße von Ägypten nach Syrien, ZDPV 70 (1954), 154—166. For the northern portion of this major route (built by Nero) from Antioch to Ptolemais see A. ALT, Die Meilenzählung an der römischen Straße Antiochia — Ptolemais, ZDPV 51.4 (1928), 253—264. The 'Peutinger Table' outlines a road across the Sinai from the Gulf of Aqaba to Clusma and on to Memphis; see E. SACHSSE, Die römische Straße durch die Sinaihalbinsel nach der Peutingerschen Tafel, ZDPV 51.4 (1928), 265—268.

[788] See inscriptions cited below n. 821.

[789] Dig L. 15.1.5; cf. on the significance of this A. N. SHERWIN WHITE, The Roman Citizenship^2 (Oxford 1973), 321—322. Cf. also the occurrence of the name Septimius (*SPṬYM YWS*, *SPṬMYW'* and *SPṬMYWS*) in Palmyrene inscriptions: CIS II.3940 = Inv. III.9; CIS II.3941 = Inv. III.8; CIS II.3943 = Inv. III.6; CIS II.3944 = Inv. III.16; CIS II.3971. Cf. D. SCHLUMBERGER, Les gentilices romains des Palmyréniens, BEO (1942/43), 35—50. For the date of the Ulpian passage see J. CARCOPINO, Note complémentaire sur les *numeri* syriens de la Numidie romaine, Syria 14 (1933), 34—41 and A. BALDINI, Epigraphica 36.1/2 (1974), 128—133 who argues that Palmyra became a colony when Caracalla incorporated the city into the Empire in A.D. 214—216.

[790] The earliest dated (cf. inscription of Yarhai below) reference to the Palmyrene *strategi* comes in a bilingual text of A.D. 198 (restored from the Palmyrene version): an equestrian statue is decreed for Aelius Bora, the son of Titus Aelius Ogeilos τὸν στρατηγὸν τὸν ἐπὶ τῆς / εἰρήνης κατασταθέντα ὑπό τε / Μανειλίου Φούσκου καὶ Οὐενιδίου Ῥούφου ὑπατικῶν καὶ ὑπὸ τῆς πατρίδος . . . καὶ στρατηγήσαντα πλειστάκις . . . see H. INGHOLT, Deux inscriptions bilingues de Palmyre, Syria 13 (1932), 278—289 no. 1 = SEG VII.138. A year later the city honours Ogeilos, the son of Maccaios, διὰ τὰς συνεχεῖς τὰς / κατὰ τῶν νομάδων στρατηγίας συναράμενον καὶ τοῖς ἐν/πόροις καὶ ταῖς συνοδίαις ἀεὶ τὴν ἀσφάλιαν παρασχόντα ἐν πάσαις / συνοδιαρχίαις . . . ibid., 289—291 no. 2 = SEG VII.139. A Palmyrene text from 'Umm eṣ-Ṣalabih, possibly the site of a way-station on the road from Palmyra to Hit, mentions a Palmyrene *strategus* (his name

is lost) at Ana and Gamla in A. D. 225, J. Cantineau, Syria 14 (1933), 178—180 no. 4; H. Seyrig, Antiquités syriennes: 8. Trois bas-reliefs religieux de type palmyrénien, Syria 13 (1932), 259—260. The Palmyrene garrison at Ana on the right bank of the Euphrates is attested by another Palmyrene text of A. D. 132, see E. Littmann, Deux Inscriptions Religieuses de Palmyre, JA n. s. 18 (1901), 381—390 = CIS II.3973; cf. M. Rostovtzeff, Das Mithraeum von Dura, MDAI(R) 49 (1934), 197, who argues that the texts refer to the local garrisons of both cities and not to a Palmyrene force; on CIS II.3973 see now J. Teixidor, JANES 5 (1973), 405. Another Palmyrene text from the Euphrates valley southeast of El-Qayan refers to a *strategus* named Yarhai. The dedication is by Abgar, the son of Shalman, "who came to the frontier" (*dy' t'brs qst'*). See text published by J. Starcky, Une inscription palmyrénienne trouvée près de l'Euphrate, Syria 40 (1963), 47—55. For a Palmyrene tessera of the first or early second century which mentions *qšt' byrt'*, "the archers of Birtha", see J. T. Milik, Notes d'épigraphie orientale, 1. La tessère des archers palmyréniens de Birtha, Syria 37 (1960), 94—95 who suggests a location north of Dura for Birtha. A dated Aramaic text of A.D. 98 (year 409) from Wadi Hauran may belong here also. The inscription records how Zubaida the son of Ḥawmal and his followers pastured their animals at the junction of Wadi Umm Kubar and Wadi Hauran in '*SṬRṬJWT YR*..., see F. Safar, Sumer 20 (1964), p. 13, no. 1. Safar suggests that the partly obliterated name may be the Palmyrene name Yarhai; if so we would gain a valuable clue for the southern extent of Palmyrene territory. But one of the Aramaic texts which may bear the date of A.D. 98 (no. 5, in fact Safar prints: 400 [9...) mentions the tribe of MŠKN' from TYM', i. e. Taima in Northern Arabia which was under Nabataean control (the names in the inscriptions are both Nabataean and Palmyrene) and therefore the *strategus* may be Nabataean. Cf. on these texts J. Teixidor, Syria 44 (1967), 187—188, no. 78.

For remains of a Palmyrene outpost at Umm el-'Amad, see A. Poidebard, Syria 12 (1931), 103—105, probably the Γεννάη κατάλυμα συνοδιῶν mentioned in SEG VII.135. The word refers to a caravanserai or *statio*. For κατάλυμα see C. Clermont-Ganneau, Découverte à Jerusalem d'une synagogue de l'époque hérodienne, Syria 12 (1931), 193—194; cf. however, on *statio*, L. Robert, Inscription honorifique de Tarse, Hellenica 7 (1949), 202—204. For sculptural representations of Palmyrene horse-archers (i. e. in most cases divinities portrayed as horse-archers) see L. Heuzey, Un dieu cavalier, CRAI (1902), 190—200 pl. I; two men armed with shields and lances, one on a horse, the other on a camel, appear on another relief from Palmyra, see H. Ingholt, Studier over Palmyrensk Skulptur (Copenhagen 1928), pl. XXIV.2; a relief from temple A at Ras Shaar shows mounted warriors with shields and spears, D. Schlumberger, Neue Ausgrabungen in der Syrischen Wüste, AA 50 (1935), 625—626 pl. 20, cf. two horse-archers in a relief, ibid., 623—624, pl. 18; H. Ingholt, Inscriptions and Sculptures from Palmyra, Berytus 3 (1935), 116—123 no. 16, pl. XXIV.1 published a relief from Palmyra depicting three kneeling military camels. A Palmyrene relief discovered by the Swiss expedition depicts the god Shadrafa in light body armour and bearing a heavy lance, P. Collart, Nouveau monument palmyrenien de Shadrafa, MH 13 (1956), 209—215. See also in general H. Seyrig, Syria 47 (1970), 79—92, 107—110 who analyses the representations of deities bearing arms or mounted on camels from the area of Palmyra, cf. H. J. W. Drijvers, in: Ex orbe religionum, 1.363—364 who adds a further unpublished relief. For a compound bow found in a necropolis as Yrzi by the Euphrates, see F. Brown, SemKond 9 (1937), 1—10. On the 'militia' of Palmyra see M. Rostovtzeff, Caravan Cities, 112—112; Idem, Mélanges Glotz, 807; Idem, MDAI(R) 49 (1934), 197—198; J. Starcky, Syria 40 (1963), 53—55; A. H. M. Jones, The Cities of the Eastern Roman Provinces², 266: "[Palmyra] maintained its own army"; cf. E. Will, Syria 34 (1957), 264—268, who argues that no municipal militia or imperial force was involved, but that all these *strategi* were simply private individuals who raised forces temporarily to cope with a particular situation.

But municipal officials who bear the title *strategus* are attested at Palmyra: e. g. IGR III. 1046 (A. D. 224/225). Here the reference is probably to municipal *duoviri*. Cf. also Inv. III.14 = CIS II.3934, in which the *boule* and *demos* of Palmyra honour Julius Aurelius Ogga δυα[νδρικὸν φιλοτείμ]ως / στρατ[ηγήσαντα .... The reference to *duovir* is not in the Palmyrene text. Cf. also for *strategus* = *duovir*, AE (1931) no. 81 = SEG VII.832 = Gerasa no. 191; P. Dura 28 (a Syriac deed of sale from Edessa — A. D. 243) bears the signature of Ἄβγαρ(ος) ὁ στρ(ατηγός) (see A. R. Bellinger and C. B. Welles, YCS 5 [1935], 131—132); and Corinth VIII.1 no. 80 mentions a στρατηγὸς τῆς πόλεως Κορινθίων. See now the discussion in H. J. Mason, Greek Terms for Roman Institutions (Toronto 1974), 161. Although the possession of *imperium* by *duoviri* is envisaged by several Republican laws, such military powers are not attested for the Empire, see W. Langhammer, Die rechtliche und soziale Stellung der *Magistratus municipales* und der *Decuriones* (Wiesbaden 1973), 55 n. 71. The office of στρατηγὸς καὶ ἐπιστάτης τῆς πόλεως is well attested at Dura in both the Parthian and Roman periods; see the list of C. B. Welles, YCS 14 (1955), 140—141; for the Roman period see also P. Dura 17A and 25 (both A. D. 180). The στρατηγὸς Νομάδων also appears elsewhere along the eastern desert fringe of Syria. On Herod's eastern marches this was perhaps the position held by Zamaris (see above n. 779); cf. OGIS 421 (either A.D. 37—44 or 50—91/3) which mentions a Chares ἔπα[ρχος ————————] / σπείρης Αὐ[γούστης καὶ στρατηγ]ὸς Νομάδων; see H. Bengtson, Die Strategie in der Hellenistischen Zeit, 2 (Munich 1964), 267—269. For the Roman period see OGIS 616 (El-Malikije): Ἁδριανοῦ τοῦ καὶ Σοαίδου / Μαλέχου, ἐθνάρχου, στρα/τηγοῦ νομάδων; cf. OGIS 617 (Rama), and: Princeton Expeditions to Syria, Greek and Latin Inscriptions III.A.5 no. 752, a grave stele of a (name missing) . . . στρατη/[γ]ὸς παρε/[μ]βαλῶν / [ν]ομάδω/[ν]. The solution is perhaps not as simple as Will suggested and I hope to return to this again at a later date.

[791] Three Latin inscriptions (Hatra inscrs. nos. 79, 80 and 81), one with a secure date of A. D. 235, have been found at Hatra. Published by D. Oates, A Note on three Latin Inscriptions from Hatra, Sumer 11 (1955), 39—43; cf. on this alliance A. Maricq, Classica et Orientalia, 2. Les dernières années de Hatra: L'alliance Romaine, Syria 34 (1957), 288—296 = Idem, Classica et Orientalia, p. 17—26. The bronze coins of Hatra closely resemble second-century issues of the mint at Antioch, see J. Walker, NC 6 ser. 18 (1958), 167—172. The Roman *limes* of the third century appears to have included Hatra within the Roman defence system; see M. A. Stein, The Ancient Trade Route past Hatra and its Roman Posts, JRAS (1941), 300—312; but cf. L. Dillemann, Haute Mésopotamie orientale et pays adjacents (Paris 1962), 201—210, who places the frontier no closer to Hatra than Singara; cf. D. Oates, Studies in the Ancient History of Northern Iraq (London 1968), 78—81.

[792] Rostovtzeff stated that the abundance of evidence from Palmyra for the caravan trade to the Persian Gulf was purely accidental, and that other cities, too, must have had a share. This view has been in part confirmed by the discovery of an inscription in Hatra mentioning people from that city in Mesene. A. Caquot, Nouvelles inscriptions araméennes de Hatra, Syria 30 (1953), 235—236 no. 29 (assumes *MSN* in line 6 is a defective rendering of *MYSN*); accepted by A. Maricq, Hatra de Sanatrouq, Syria 32 (1954), 285 n. 6, but cf. J. Teixidor, Notes hatréennes 2: L'inscription de Hatra no. 79, Syria 41 (1964), 281 n. 4 reads *MSK* (Maškane). An inscription from Sa'adiya near Hatra refers to Qarqabeš (*QRQBS*) and Ḥašpiša (*ḤSPS*) indicating that a route also ran north from Hatra through the Tigris Valley to the vicinity of Nisibis. A. Caquot, Nouvelles inscriptions . . . . (V), Syria 40 (1963), 12—14 and discussion in J. Teixidor, Notes hatréennes 1: L'inscription de Sa'adiya, Syria 41 (1964), 274—279.

Hatra inscription no. 79 (Idem, Syria 40 [1963], 2—6) and possibly a graffito no. 50 (A. Caquot, Nouvelles inscriptions . . . [III], Syria 32 [1955], 54—55, who reads the last two words as *'K' D MSKN'*; cf. J. Teixidor, Syria 41 [1964], 281 n. 4, who reads *'L[H]' DMSKN'*) mention the city of Maškane on the Euphrates indicating that another route ran from Hatra west to the vicinity of this city; see J. Teixidor, Syria 41 (1964), 280—281; cf. L. Dillemann, Haute Mésopotamie orientale, 171—188. For seven *Æ* coins of Hatra found at Dura see A. Bellinger, Dura Excavations, Final Report. The Coins, 172. Cf. for identification of the coins J. Walker, NC 6 ser. 18 (1958), 167—168. Two inscriptions and a graffito from Dura are written in the Hatrean ductus: Inv. Dura no. 53 bis; Comte du Mesnil du Buisson, Syria 19 (1938), 147 (a bilingual text discussed above n.

758); and Idem, Syria 19 (1938), 383; cf. the identification in A. Caquot, Syria 30 (1953), 244—245.

[793] Silk trade in Nisibis: Midrash Samuel 10.3: Abba, the father of Samuel b. Abba was a silk merchant and he sent silk to R. Judah b. Bathyra in Nisibis; cf. J. Neusner, PAAJR 31 (1963), 166. R. Hiyya went from Babylonia to Tyre to trade in silks; Midrash, Genesis-Rabbah 77.2. See also Josephus, AJ XX.34, who states that Ananias, Ἰουδαῖος ἔμπορος, converted the wives of Izates in Charax Spasinou. Jewish silk merchants resident at Edessa are mentioned in the Syriac 'Doctrine of Addai', see W. Cureton, Ancient Syriac Documents (London 1864, repr. Amsterdam 1967), p. 14.22, cf. commentary pp. 156—157. For Edessa and the silk trade see J. B. Segal, Edessa, 44, 79, 137. For the role of Jewish merchants in the commerce of Babylonia see S. Funk, Die Juden in Babylonien 200—500, 18—21 and J. Newman, The Commercial Life of the Jews in Babylonia between the Years 200 C.E. and 500 C.E. (London, n. d.), 25—65. It is probably their descendants who became the famous Rādhānite merchants of the early Middle Ages whose trade stretched from Spain and Italy to China, see now M. Gil, The Rādhānite Merchants and the Land of Rādhān, JESHO 17.3 (1974), 299—328 who rejects earlier views that these men were of Western origin and traces them to Rādhān in Babylonia.

[794] Procopius Arc. 25.14: ἱμάτια τὰ ἐκ μετάξης ἐν Βηρυτῷ μὲν καὶ Τύρῳ πόλεσι ταῖς ἐπὶ Φοινίκης ἐργάζεσθαι ἐκ παλαιοῦ εἰώθει. For textile production in Palestine and Syria see F. Heichelheim, in: ESAR 4.192. For the textile industry of Scythopolis see C. Th. X.20.8 (A.D. 374) and Expositio Totius Mundi 30—31; cf. the discussion in M. Avi-Yonah, Scythopolis, IEJ 12.2 (1962), 132—134.

[795] Suggested by M. Cary, Maës, Qui et Titianus, CQ (1956), 132—133, who goes too far in arguing that Maes probably had a mandate from Augustus for his expedition and that Titius persuaded Phraates IV to permit the passage of the explorers. For the date of the Syrian governorship of M. Titius, see T. Corbishley, A Note on the Date of the Syrian Governorship of M. Titius, JRS 24 (1934), 43—49; cf. L. R. Taylor, M. Titius and the Syrian Command, JRS 26 (1936), 161—173, who argues that Titius was governor twice (20—17 and 13/12 B. C.) and that his is the missing name in a fragmentary elogium from Tivoli, CIL XIV.3613 = ILS 918.

[796] Ptolemy, Geog. I.11.6. The best discussion is M. Cary, CQ (1956), 130—134, who suggests a date in the Augustan period for the expedition. The reasoning used to establish the date is fallacious. Usually a much later date is preferred: e. g. R. Hennig, Terrae Incognitae, 1.337: A. D. 100—105; M. Cary and E. H. Warmington, The Ancient Explorers² (Harmondsworth 1963), 196: A. D. 120. On the route in Ptolemy see A. Herrmann, Seidenstraßen, 18—26; Idem, Das Land der Seide, 101—106; P. Pelliot, A propos du tokharien, TP 2 ser. 32 (1936), 261—263; J. O. Thompson, History of Ancient Geography (Cambridge 1948), 307—311; K. Shiratori, On the Ts'ung-ling Traffic Route described by C. Ptolemaeus, MTB 16 (1957), 1—34, who argues that the 'Southern Route' over the Pamirs and through the Tarim Basin was used. For the Seres see above p. 699, n. 110.
Maes Titianus is described by Ptolemy as a Macedonian and most see him as coming from either Egypt or Syria; see M. Cary, CQ (1956), 130. Altheim has ignored the earlier literature on the subject. For him the name is Iranian (Μαύης) and the man a resident of eastern Iran; see F. Altheim and R. Stiehl, Geschichte Mittelasiens im Altertum, 707. But this is nonsense. The name Μάης is attested in Greece in the Hellenistic period: e. g. see SEG XIX.363k (Boeotia) and W. Pape, Wörterbuch der Griechischen Eigennamen³, 2 (Braunschweig 1875), 838.

[797] For the production of perfumes and drugs in Alexandria see below p. 901, n. 992; for the drug trade in general see A. Schmidt, Drogen und Drogenhandel im Altertum, Inaug. Diss. Bonn (Cologne 1924), 83—90; for perfume production in Italy see T. Frank, Rome and Italy of the Empire, ESAR 5.134, 260; for epigraphic evidence of perfume and drug production in Corinth see L. Robert, Épitaphes et acclamations Byzantines à Corinthe, Hellenica 11/12 (1960), 39—47. The dominant position held by the Greek and Syrian

merchants appears to have been a development of the imperial period. During the late Republic Roman or Italian merchants still played a prominent role. Ὀφέλλιος, the friend of Σαραμάλλα τοῦ πλουσιωτάτου τῶν ἐν Συρίᾳ, who offered the tetrarch Phasael his ships to enable him to escape from the Parthians (40 B.C.) was probably a *negotiator*, Josephus AJ XIV.345, BJ.I.259, cf. J. Hatzfeld, Les trafiquants Italiens dans l'orient hellénique (Paris 1919), 143 who suggests that he belonged to the Ofelli who are well attested in Greece and on the Aegean islands. An enclave of Italian merchants was also established at Petra in c. 30 B.C.; see Athenodorus' report quoted by Strabo: εὑρεῖν γὰρ ἐπιδημοῦντας ἔφη πολλοὺς μὲν Ῥωμαίων, πολλοὺς δὲ καὶ τῶν ἄλλων ξένων XVI.4.21 = FGrHist III C no. 746.F 5.

[798] Most important is a famous Greek text IG XIV.830 = OGIS 595 = IGR I.421 (A.D. 174), a letter to the city of Tyre from οἱ ἐν Ποτιόλοις κατοικοῦντες. The residents complain that, although their *statio* had once been one of the largest in Puteoli cared for by οἱ ἐν Ποτιόλοις κα/τοικοῦντες Τύριοι ⟨οι⟩ πολλοὶ ὄντες καὶ πλούσιοι, they had now been reduced in numbers (νῦν δὲ εἰς ὀλίγους ἡμᾶς περιέστη τὸν / ἀριθμόν) and could no longer afford to pay to Puteoli the annual rent for the *statio*. The text is frequently understood as reflecting the loss of Oriental commerce by Puteoli to the rival port of Ostia; but cf. J. H. D'Arms, Puteoli in the Second Century of the Roman Empire: A Social and Economic Study, JRS 64 (1974), 105, and 121, where further evidence for oriental residents in Puteoli is cited. Another inscription from Puteoli mentions *mercatores qui Alexandr. Asiai Syriai negotiantu[r]*, CIL X.1797 = ILS 7273. For Palmyrene inscriptions from Rome see IGR I.45 = CIS II.3902; CIL VI.710 = 30817 = CIS II.3903; IGR I.46 = CIS II.3904; CIL VI.19134 = CIS II.3905.

[799] Inscriptions collected in R. Meiggs, Roman Ostia², 215—216.

[800] At Capua large numbers of slaves of Eastern origin are known from the inscriptions. Some of these may have gone on to become *liberti* and owners of their own business establishments; see M. W. Frederiksen, Republican Capua: A Social and Economic Study, PBSR n. s. 14 (1959), 114—115. See also the Syrian and other Eastern slaves in the inscriptions from Rome itself; see M. Bang, Die Herkunft der römischen Sklaven, MDAI(R) 25 (1910), 325—326, 328, 332—335. For Pompeii see CIL IV.5611—5620; for M. Valerius Abinnericus cf. A. W. van Buren, The Past Decade of Pompeian Studies, CJ 15 (1920), 406. See also below n. 1478. For Syrians and others from the Eastern Provinces in West Africa, see M. Euzennat, Grecs et orientaux en Maurétanie tingitane, AntAfr 5 (1971), 161—178; J. M. Lassère, Un syrien et sa famille à El-Kantara, REA 67 (1965), 353—367.

[801] Some 70 ostraca are now connected with the activities of this enterprise; cf. O. Petr. 224 for the term καμη(λότροφος). Nicanor, his brother and sons are attested to be engaged in the transport of goods from Coptos to Myos Hormos and Berenice from 18 B.C. (O. Bodl. II.1968) until A.D. 62 (O. Petr. 290). All of the receipts except O. Petr. 245 (ἐν Ἀπολλω(νος) Ὑδρεύμ(ατι)) were made out at either Myos Hormos or Berenice; see O. Petr. 220—304; O. Bodl. II.1968—1971 (not all mention Nicanor and his relatives); O. Brüss. Berl. 7 also belongs to this archive and should be restored as παρέλαβον παρὰ σ̣ο̣υ ἐπ̣[ὶ Μυ]/ος Ὅρμ[ου]. See the discussion of this archive in M. Rostovtzeff, A Review of J. G. Tait, Greek Ostraka . . . . ., Gnomon 7 (1931), 21—26; H. Kortenbeutel, Süd- und Osthandel, 63; A. Fuks, Notes on the Archive of Nicanor, JJP 5 (1951), 207—216. A fragmentary letter unrelated to the transport business but possibly referring to the same Isidora as found in some of the Nicanor ostraca (O. Petr. 244; 257; O. Brüss. Berl. 7) has come to light at the El Heita station on the Myos Hormos road; see D. Meredith, The Myos Hormos Road: Inscriptions and Ostraca, CE 31 (1956), 356—358.

[802] Roman names: e. g. O. Petr. 221: Γάιος Ἰούλ̣ιος; 225: Αὖλ̣ο̣ς Γαβείνιος Ἀγαθόπους; 257: Γαίος Νόρβανος. Greek names: e. g. O. Petr. 228, 233; 234; 246; etc.

[803] A name such as Εὔανδρος Κορνηλίου (O. Petr. 227, 246) does not indicate that a man is a Roman citizen. Even the use of the *tria nomina*, such as, for example, Tiberius Claudius

Agathocles and Tiberius Claudius Theodorus (O. Petr. 275, 276) or Gaius Iulius Bacchulus (O. Petr. 288, 291) provides no certain guarantee of Roman citizenship; see WO I.604 (in reference to *practores* with Roman names); F. Oertel, Die Liturgie, 392 n. 1; J. Lesquier, L'armée romaine d'Égypte d'Auguste à Diocletian (Cairo 1918), 219—222, 265; J. F. Oates, Romanization of the Greek East: The Evidence of Egypt, BASP 2 (1965), 60—62; J. Bingen, Review of A. Bernand, De Koptos à Kosseir (Leiden 1972), CE 47 (1972), 327; J. F. Gilliam, A Legionary Veteran and his Family, BASP 8.2/3 (1971), 40—41; I. Biezunska-Małowist, Les citoyens romains à Oxyrhynchos aux deux premiers siècles de l'Empire, in: Hommages à Claire Préaux, 743—747. Of greatest interest in P. Mich. IV.223.430—431 (A.D. 171—172), a polltax list from Karanis, on which appear the names of two brothers, Gaius Julius Ptolemaeus and Gaius Julius Diodorus. Youtie has recently proposed a new solution for the existence of men having the *tria nomina* but not possessing Roman citizenship: such men were the result of the illegal (since Roman troops were forbidden to marry) union between Roman soldiers and local women; see H. C. Youtie, 'Απάτορες: Law vs. Custom in Roman Egypt, in: Hommages à Claire Préaux, 723—740. cf. also for this phenomenon in the rest of the empire the thorough study of H. Wolff, Zu den Bürgerrechtsverleihungen an Kinder von Auxiliaren und Legionaren, Chiron 4 (1974), 479—510.

[804] A certain Marcus Iulius Alexander is represented by agents in both Myos Hormos and Berenice: O. Petr. 252 (A. D. 37); 266 (Myos Hormos, A. D. 43); 267 (Berenice, A. D. 43); 271 (Myos Hormos, A.D. 43—44). O. Petr. 244 and 257 mention a C. Norbanus (The *nomen* is rare until the Augustan period, see F. Münzer, Norbanus, Hermes 67 [1932], 221—222); cf. the pottery stamps of C. Norbanus excavated at Coptos, A. J. Reinach, Rapport sur les fouilles de Koptos. Deuxième campagne, janvier-février 1911, Bull. soc. fr. de fouilles archéologiques 3 (1912), 80 n. 2 nos. 1471—72, 1603. For the name in Egypt see S. Daris, Due note, BASP 5.4 (1968), 134.

[805] The identity of the Marcus Iulius Alexander of the ostraca with the brother of the Prefect is now generally accepted; see A. Fuks, JJP 5 (1951), 214—216; J. Schwartz, Note sur la famille de Philon d'Alexandrie, AIPHOS 13 (1953), 597—598; E. G. Turner, JRS 44 (1954), 59; C. Préaux, La stabilité de l'Égypte aux deux premiers siècles de notre ère, CE 31 (1956), 324 n. 2.

[806] For confusion of the terms *alabarch* and *arabarch* see M. Rostovtzeff, 'ΑΠΟΣΤΟΛΙΟΝ, MDAI(R) 12 (1897), 76—77, who distinguishes two different officials; cf. J. Lesquier, L'armée romaine d'Égypte, 421—427; cf. M. Rostovtzeff, YCS 2 (1931), 49—51. Lesquier's reasoning that the two officials are the same and that the post carried with it the supervision of the taxes obtained from the Red Sea ports and the Eastern Desert of Egypt has generally been accepted. So already P. Jouguet, Inscriptions grecques d'Égypte, BCH 20 (1896), 174—176; also E. G. Turner, JRS 44 (1954), 54. For the prominence of Marcus' father see J. Schwartz, Note sur la famille de Philon d'Alexandrie, AIPHOS 13 (1953), 592—596. For the possible identity of Julius Lysimachus, attested as a member of the Prefect's *concilium* in A.D. 63 in P. Fouad 21 with Marcus' uncle, i.e. Philo's brother, see E. Balogh and H. G. Pflaum, Le *concilium* du préfet d'Égypte. Sa composition, RD (1952), 123.

[807] For the career of Tiberius Iulius Alexander see A. Lepape, BSRAA 8.3 (1934), 331—341; J. Schwartz, AIPHOS 13 (1953), 591—602; E. G. Turner, JRS 44 (1954), 54—64. The possibility that Tiberius may have held the post of *arabarch* is raised by Turner, op. cit., 59, 63, thus understanding Juvenal, Sat. I.13 as referring to this. Only a single document attests the simultaneous holding of the offices of *epistrategus* and *arabarch* (OGIS 685): Κλαύδιος Γέμινος / ἀραβάρχης καὶ ἐπιστράτη/γος Θηβαίδος.... None of this, however, suggests that the Prefect himself was engaged in such business dealings as his brother. It was technically illegal for any Roman official to buy land or engage in business in his *provincia*: Dig. XII.1.33 (Modestinus): *Principalibus constitutionibus cavetur, ne hi qui provinciam regunt quive circa eos sunt negotientur mutuamve pecuniam dent faenusve exerceant.* Cf. ibid., XII.1.34 (Paulus); XLIX.14.46.2 (Hermogenia-

nus): *Quod a praeside seu procuratore vel quolibet alio in ea provincia, in qua administrat, licet per suppositam personam comparatum est, infirmato contractu vindicatur et aestimatio eius fisco infertur: nam et navem in eadem provincia, in qua quis administrat, aedificare prohibetur.* For Egypt see also BGU V. § 70: Τοῖς ἐ[ν] δημοσίαις χρ̣ε̣ίαις οὖσ̣ι̣ οὐκ ἐξὸν ὠνεῖσ̣θ̣α̣ι̣ ἢ δ̣[ανεί]ζ̣ειν ἐν οἷς π[ρ]αγ[μ]ατεύο[ντ]αι τόποις οὐδὲ ἰδίοις αὐτῶν ο[ὐ]δ̣ὲ ἐξ ὑπολ̣ό̣γ̣ο̣υ̣ [οὐδὲ ἐ]κ προκηρύξεως ὅλου ν̣ο̣μ̣ο̣ῦ̣, ο̣ἱ δὲ ὑπόβλ̣ητο̣ι̣ τῶν τοιο̣ύ̣των γεινό̣με̣[νοι] ε̣ὐ̣[θύ]νονται τῷ ἴ̣σ̣ῳ, καὶ αἱ [ἀ]ντικαταλάξεις ἐνίοτε ἐκρατή[θ]ησαν· See on this passage W. UXKULL-GYLLENBAND, Der Gnomon des Idios Logos, 69—70, and IDEM, APF 9 (1930), 197—206, who argues against the usual interpretation (e. g. JOHNSON, Roman Egypt, 716) that only liturgical officials are refered to and that § 2 and § 3 of the Edict of Tiberius Iulius Alexander (SEG XVI.861) are part of earlier legislation on the same subject; cf. W. SCHUBART, APF 14 (1941), 37—39 and the rejection of UXKULL-GYLLENBAND'S argument about the edict in W. MÜLLER, Zum Edikt des Tiberius Julius Alexander, Festschr. f. Friedrich Zucker zum 70 Geburtstag (Berlin 1954), 293—297, who gives a different explanation of the intent of this passage.

The same restriction applied also to soldiers serving in a province: Dig. XLIX.16,9; cf. 13 pr. (Marcianus), For the same restriction in Egypt see Gnomon of the Idios Logos, BGU V. § 111; cf. BGU II.462 = W. Chr. 376 with comments of W. UXKULL-GYLLENBAND, Der Gnomon des Idios Logos, 46, and on the process involved in BGU II.462 see M. ROSTOVTZEFF, Studien zur Geschichte des Römischen Kolonates, 143—146.

[808] Pliny, NH VI.84. A difficulty about the wording of this passage has arisen. JONES, who himself noted the importance of provincial *fisci*, thought that Pliny here used the word in a general sense of "the imperial financial administration": A. H. M. JONES, The Aerarium and the Fiscus, JRS 40 (1950), 25; cf. P. A. BRUNT, The 'Fiscus' and its Development, JRS 56 (1966), 84. For the essential difference in wealth and scale of operation between the Roman *publicani* in the West and the local τελῶναι of Syria and Egypt (i. e. presumably including Annius Plocamus) see H. C. YOUTIE, ZPE 1 (1967), 9—12.

[809] Pliny, NH VI.84: *libertus circa Arabiam navigans aquilonibus raptus praeter Carmaniam, XV die Hippuros portum eius (Taprobanes) invectus.*

[810] Pliny, NH VI.84—91. Cf. comments of J. O. THOMSON, History of Ancient Geography, 302—303; D. MEREDITH, Annius Plocamus: Two Inscriptions from the Berenice Road, JRS 43 (1953), 39 n. 3.

[811] In general on this duty see M. ROSTOVTZEFF, APF 4 (1907/08), 309—313; IDEM, Staatspacht, 396; A. ANDRÉADES, in: Mélanges Glotz, 1.32—35. Cf. S. J. DE LAET, Portorium, 306—307, who argues that the *publicanus* who farmed the *vectigal Maris Rubri* also levied the tolls at Leuce Come (on which see above pp. 663—664) mentioned in Periplus c. 19 (= FRISK, p. 6.31—p. 7.2); so also S. L. WALLACE, Taxation, 257.

[812] Pliny, NH VI.84. For ROSTOVTZEFF the answer was simple: the *libertus* was on the way to the Roman customs house near Bab el-Mandeb, APF 4 (1907—1908), 310. This assumption, that Roman posts existed on the southern shores of the Red Sea, is, in fact, erroneous; see below p. 894, n. 964. ROSTOVTZEFF'S view is accepted by S. J. DE LAET, Portorium, 306.

[813] So D. MEREDITH, JRS 43 (1953), 39.

[814] See publication of the texts by D. MEREDITH, JRS 43 (1953), 38—39, fig. 14 = SEG XIII.614: Λυσᾶς Ποπλίου 'Αννίου Πλοκάμου ἥκωι Lλε Καίσαρος ἐπεὶφ η̅ / *Lysa P Anni Plocami veni anno XXXV III Non Iul .....* Both dates fall in July of A.D. 6.

[815] This possibility was not envisaged by D. MEREDITH, JRS 43 (1953), 39—40, who tried to explain the large gap between A.D. 6 and the reign of Claudius. A possible parallel for this may be the *conductores* of the *publicum portorii Illyrici*, among whom Antonii are particularly prominent: AE (1905), no. 152 = ILS 9019; CIL III.13283 = ILS 4225; cf. III.5120; ILS 9023. On the possible relationship of these men see A. STEIN, Der römische Ritterstand (Munich 1927), 189. Two careers are of particular interest, since they indicate

that the same individual could be in his life-time (but not simultaneously) both *procurator* and *conductor* of *vectigalia*: M. Antonius Fabianus was first *procurator XL Galliarum et portus* and *procurator argentariarum Pannonicarum* and afterwards *conductor* of the *portorium Illyrici*, AE (1905), 152 = ILS 9019; cf. J. FITZ, Verwaltung der pannonischen Bergwerke, Klio 54 (1972), 219—220. Also C. Antonius Rufus, who was first *conductor publici portorii* (CIL III.13283 = ILS 4225) and later *procurator* (CIL III.5117, 14354); cf. A. DOBO, Die Verwaltung der römischen Provinz Pannonien von Augustus bis Diocletianus (Budapest/Amsterdam 1968), 178.
Annius Plocamus may well have owned property in Egypt, since land was frequently used as security in public contracts; e. g. ILLRP 518 (the contract for a wall in front of a temple of Serapis at Puteoli); cf. E. BADIAN, Publicans and Sinners 68—69. For Egypt see BGU IV.1046 = Chrest. Wilck., II.265, a list of *practores* and their landed property. In general on the connexion between tax-farming and land-ownership see F. OERTEL, Die Liturgie, 143—146; A. C. JOHNSON, Roman Egypt, 611 n. 22; and M. EL ABBADI, BIFAO 65 (1967), 220.

[816] Not in I. KAJANTO, The Latin Cognomina, Soc. Scient. Fennica Comm. Hum. Lit. 26.2 (Helsinki 1965).

[817] See J. H. D'ARMS, JRS 64 (1974), 107—108, 109, 114; for the existence of a *curia basilicae Augusti Annianae* where the *decuriones* of Puteoli met see CIL X.1782 = R. K. SHERK, The Municipal Decrees of the Roman West, Arethusa Monographs 2 (Buffalo 1970), no. 33 (cited as MDRW); CIL X.1783 = ILS 5919 = FIRA III^2 no. 111 = MDRW no. 34; CIL X.1786; for the Annii at Capua see M. W. FREDERIKSEN, PBSR n. s. 14 (1959), 127—128. The Annii also appear at Delos in the second century B.C., see J. HATZFELD, Les Italiens résident à Delos, BCH 36 (1912), 14. For their presence at about the same time in Pergamum and Athens see IDEM, Les trafiquants italiens dans l'orient hellénique (Paris 1919), 48, n. 2.

[818] The perfume trade, for example, is well attested in a number of centres in the Bay of Naples area. At Capua an entire quarter of the town, Seplasia, was given over to *unguentarii* (see the derogatory comments of Cicero, Pis. 24—25); cf. Festus 458 (LINDSAY): *Seplasia forum Capuae, in quo plurimi unguentarii erant. Unguentarii* occur frequently in Capuan inscriptions: CIL I^2.1594; X.3968, 3974, 3979, 3982. On the perfume industry of Capua see M. W. FREDERIKSEN, PBSR n. s. 14 (1959), 110—111.

[819] Apart from the individual in Pliny three other Annii Plocami are epigraphically attested; see PIR I^2 no. 676. The only suitable candidate is mentioned in CIL X.2389. The Annii Plocami were not the only Romans engaged in tax-farming in Egypt; e. g. see BGU III.747 = Chrest. Wilck. II, no. 35 (A.D. 139), a letter from the *strategus* of the Coptite nome to the Prefect, Avidius Heliodorus, complaining that the Roman citizens and Alexandrians who were farming the taxes in the nome were refusing to obey the *strategus*. Cf. on this O. W. REINMUTH, The Prefect of Egypt, 25—26.

[820] CIS II.3910 from Denderah; cf. C. CLERMONT-GANNEAU, RAO 3, 300—306; AE (1912), no. 171 from Coptos.

[821] The existence of a Palmyrene mercantile establishment was suggested by REINACH on the basis of 12 *stelai* with relief work akin to Palmyrene art found there; see A. J. REINACH, Rapport sur les fouilles de Koptos: deuxième campagne, janvier-février 1911, Bull. soc. fr. de fouilles archéologiques 3 (1912), 62—66, 79. The existence of such a Palmyrene community advocated on the basis of the *stelai* is rejected by H. SEYRIG, Le prétendu fondouq palmyrénien de Coptos, Syria 49 (1972), 120—125, figs. 21—25, who notes that the *stelai* found by REINACH are all of Egyptian workmanship. But Palmyrene merchants are epigraphically attested. A fragmentary dedication mentions: Ζαβδαλα Σαλμα/νου καὶ 'Ανεί[ν]α 'Αδρια/νῶν Παλμυρηνῶν ναυκλήρων 'Ερυθραϊκῶν/ . . . . ./ 'Αδ]ριανοὶ Παλμυρηνοὶ (εν) ἔμποροι . . . . AE (1912), no. 171 (after REINACH). On the frequent imprecision of the usage of ἔμπορος and ναύκληρος see M. I. FINKEL-

STEIN, Ἔμπορος, Ναύκληρος and Κάπηλος: A Prologomena to the Study of Athenian Trade, CPh 30 (1935), 320—321; cf. M. ROSTOVTZEFF, JEBH 4 (1931/32), 762—765. Cf. also on the usage in this text J. SCHWARTZ, Annales (ESC) (1960), 30—32. On such merchant associations in Egypt see A. E. R. BOAK, The Organisation of Guilds in Greco-Roman Egypt, TAPhA 68 (1937), 212—220; C. PRÉAUX, A propos des associations dans l'Égypte gréco-romaine, RIDA 1 (1948), 189—198 (commenting on P. Mich. V.243—245 and P. Lond. 2710); R. TAUBENSCHLAG, The Law of Associations in Greco-Roman Egypt, RIDA 5 (1950), 509—514. For the possible mention of two men from Palmyra in a South Arabian inscription see Ja 931 (A. JAMME, The Al-ʿAlqlah Texts [Washington 1963], 44—45): *tḏmryyhn*; cf. W. W. MÜLLER, Review of A. JAMME, The Al-ʿUqlah Texts, BiOr 21.5/6 (1964), 380 who proposes this identification. Such travellers could also have come overland by way of the desert route from the North. This may explain a Palmyrene graffito found at as-Serraʾ in the Hāʾil region of Arabia, see F. V. WINNETT and W. L. REED, An Archaeological-Epigraphical Survey of the Hāʾil Area of Northern Saudi Arabia, Berytus 22 (1973), 89 no. 204.

[822] CIS II.3910.

[823] For Alexandria as an industrial centre see above p. 633; for the concentration of the spice trade in Alexandria see below p. 901, n. 992.

[824] Strabo XVII.1.45 commenting on the road from Coptos to Berenice built by Philadelphus: ἐφάνη δὴ τῇ πείρᾳ πολὺ τὸ χρήσιμον, καὶ νῦν ὁ Ἰνδικὸς φόρτος ἅπας καὶ ὁ Ἀράβιος καὶ τοῦ Αἰθιοπικοῦ ὁ τῷ Ἀραβίῳ κόλπῳ κατακομιζόμενος εἰς Κοπτὸν φέρεται, καὶ τοῦτ' ἔστιν ἐμπόριον τῶν τοιούτων φορτίων. Coptos also had a less violent and less turbulent political atmosphere than Alexandria. Serious disturbances and riots, which must have hindered trade, were confined to the latter. But the Jewish revolt of A.D. 115 to 116, although largely limited to the North, did affect some parts of the Thebaid; see the papyri studied in J. SCHWARTZ, En marge du dossier d'Apollonios le stratège, CE 37 (1962), 349—356; cf. A. FUKS, Aspects of the Jewish Revolt in A.D. 115—117, JRS 51 (1961), 99 and IDEM, The Jewish Revolt in Egypt (A.D. 115—117) in the light of the papyri, Aegyptus 33 (1953), 131, 135—153.

[825] AE (1912), no. 171; see above n. 821.

[826] Above n. 801.

[827] The restoration of IGR I.181 is far from certain. SEYMOUR DE RICCI, APF 2 (1902—1903), 451 no. 90 suggested (lines 6—7): Βουλευτὴς [. . . . . καὶ κυβερνήτης]/[ἐ]ρυθραικὸς σὺ[ν . . . . ; cf. R. CALDERINI, Βουλευτικά, Aegyptus 31 (1951), 40 no. 339 (with a faulty transcription). Also on this text see J. SCHWARTZ, L. Mussius Aemilianus, préfet d'Egypte, BSRAA 37 (1948), 35, 39; IDEM, Les palmyréniens et l'Égypte, BSRAA 40 (1953), 64 n. 5, where he discusses the restoration βουλευτὴς τ[ῆς λαμπροτάτης πόλεως τῶν Ἀλεξανδρέων]; cf. P. M. FRASER, Greek Inscriptions (1954), JEA 41 (1955), 138 no. 39.

[828] Marcus Iulius Alexander in O. Petr. 252, 266, 267, and 271. Cf. SEG VIII.705 (from Medamoud): ναύκληροι κα[ὶ / ἔμπο]ροι Ἐρυθραϊκοί. The combination of ναύκληροι and ἔμποροι is well attested: e. g. OGIS 135, 344 (Delos), 595 (Puteoli).

[829] A. J. REINACH, Bull. soc. fr. de Fouilles archéologiques 3 (1912), 59, 81; H. SEYRIG, Syria 49 (1972), 120—125. For the production of coarse textiles at Coptos see receipts for τέλος τῶν κασσοποιῶν καὶ γναφαλλολόγων: WO II.1081, 1082, 1084—1090, 1616 (Coptos?). The attribution of these ostraca to Coptos is assured by WO II. 1089: τέλος τῶν κα/σωποιῶν τοῦ Κοπτί/του; so also 1090. Cf. Hesychius s. v. κάσσον: ἱμάτιον παχὺ καὶ τραχὺ περιβόλαιον. Coptos may thus be one of the production centres for the ἱμάτια βαρβαρικὰ ἄγναφα τὰ ἐν Αἰγύπτῳ γινόμενα which Periplus c. 6 (= FRISK, p. 2. 23—24) lists among the imports to East African ports.

[830] A letter of June 19, A.D. 115 from the archive of the *strategus* Apollonius reports on the purchase of arms at Coptos and the daily fluctuation of the price of silver bullion in the city's market (P. Giss. 47): τὸ ἄσημον νῦν ἔστ(ιν) (δραχμαί) τξβ. ὡς γὰρ οἶδας, ἐν Κόπτῳ καθ' ἡμέραν διάφοροι γείνονται τιμαί. On the date given here see J. SCHWARTZ, CE 37 (1962), 354; cf. on this document L. C. WEST and A. C. JOHNSON, Currency in Roman and Byzantine Egypt (Princeton 1944), 93—94.

[831] In c. 279 the Blemmyes (see below p. 678) had captured Coptos briefly, but they were driven out by Probus' local commanders: HA Probus 17.2,6; Zosimus I.71.1; cf. on Probus' subsequent reorganisation in Egypt R. RÉMONDON, Un nouveau document concernant Probus, RPh 3 ser. 28 (1954), 199—210.
The traditional date for Diocletian's destruction of Coptos is 291, see H. MATTINGLY, The Imperial Recovery, CAH 12.328. P. Panop. Beatty 1 of September 298 refers to preparations for an upcoming visit of Diocletian to Egypt, cf. J.-P. CALLU, A propos des papyri de Panopolis, BSFN 20.8 (Oct. 1965), 500 who dates the two visits of Diocletian to 296—297; 299—300. For evidence of destruction at Coptos see A. J. REINACH, Bull. soc. fr. de fouilles archéologiques 3 (1912), 59. See further below n. 1721.

[832] Zonaras XII.31 (p. 614 BONN).

[833] Evidence for use of Clusma cited below n. 977.

[834] Merchants of Palmyra: AE (1912), no. 171; SEG VIII.703; Periplus passim; Ptolemy, Geog. I.7.6; 8.1; 9.1—2. Recently new evidence has come to light which confirms the literary tradition that there were Jewish settlements in Southern Arabia in the early centuries of our era. A bilingual Hebrew-Sabaean inscription found at Beit el-Ašwal records the construction of a synagogue, see G. GARBINI, Una bilingue sabeo-ebraica da Zafar, AION 30 (1970), 153—160; cf. A. F. L. BEESTON, Sabaean Marginalia, AION 32 (1972), 394—395 on the Sabaean text; now republished on the basis of a photograph by R. DEGEN and W. W. MÜLLER, Eine hebräisch-sabäische Bilinguis aus Bait al-Ašwāl, NESE 2 (1974), 117—123. AION 30 (1970), 154 is dated to the latter part of the fourth century. A Hebrew religious inscription dated to the third to sixth centuries (so DEGEN) or fifth to seventh centuries (so GRUNTFEST) was recorded at Beit el-Ḥāḏir by the German expedition of 1970 and the Soviet expedition of 1971; see IA. B. GRUNTFEST, Nadpis' Dvadtsati chetyrekh cheredov' iz Beit Khadir, in: Drevniaia Arabiia (Leningrad 1973), 71—81; R. DEGEN, Die Hebräische Inschrift DJE 23 aus dem Jemen, NESE 2 (1974), 111—116; IDEM, Noch einmal: die Hebräische Inschrift DJE 23 aus dem Jemen, NESE 2 (1974), 166—167 and IA. B. GRUNTFEST, Novyi dokument o iemensko-palestinskhikh sviaziak doislamskogo perioda, PalSb 25 (1974), 105—114.

[835] For silk see above pp. 623—625; cotton, spices, jewels, above pp. 651—660, 671.

[836] Periplus c. 16 (= FRISK, p. 6.10—13) reports that the merchants of Muza frequently sailed to the coast about Rhapta (text cited below p. 931, n. 1137); c. 19 (= FRISK, p. 6.29—31) describing Leuce Come: Ἔχει δὲ ἐμπορίου τινὰ καὶ αὐτὴ τάξιν τοῖς ἀπὸ τῆς Ἀραβίας ἐξαρτιζομένοις εἰς αὐτὴν πλοίοις οὐ μεγάλοις; c. 21 (= FRISK, p. 7.21—22) describing the Arabian port of Muza: Τὸ μὲν ὅλον Ἀράβων, ναυκληρικῶν ἀνθρώπων καὶ ναυτικῶν, πλεονάζον [δὲ] καὶ τοῖς ἀπὸ ἐμπορίας πράγμασι κινεῖται· c. 27 (= FRISK, p. 9.10—12) on the Arabian port of Cana: Ἔχει δὲ καὶ αὐτὴ[ν] σύγχρησιν τῶν τοῦ πέραν ἐμπορίων, Βαρυγάζων καὶ Σκυθίας καὶ Ὀμάνω⟨ν⟩ καὶ τῆς παρακειμένης Περσίδος; c. 31 (= FRISK, p. 10.20—21), reports that Socotra was visited by ships from Muza; c. 33 (= FRISK, p. 11.18—19), ships from Cana call at the Zenobia islands; and c. 36 (= FRISK, p. 12.7—9): . . . εἰς δὲ τὴν Ὄμανα καὶ ἀπὸ Κανὴ λίβανος καὶ ἀπὸ Ὀμμάνων εἰς τὴν Ἀραβίαν ἐντόπια ῥαπτὰ πλοιάρια, τὰ λεγόμενα μαδαράτε.

[837] Periplus c. 60 (= FRISK, p. 20.6—10), text cited below p. 937, n. 1145; c. 36 (= FRISK, p. 12.4—7) notes that ships from Barygaza also called at Omana and Apologos in

Mesene: Ἐξαρτίζεται δὲ εἰς αὐτὴν συνήθως ἀπὸ μὲν Βαρυγάζων εἰς ἀμφότερα ταῦτα τῆς Περσίδος ἐμπόρια πλοῖα μεγάλα χαλκοῦ καὶ ξύλων σανταλίνων καὶ δοκῶν καὶ κεράτων καὶ φαλάγγων σησαμίνων καὶ ἐβενίνων . . .

[838] The use of very large vessels to carry spices is specifically mentioned in Periplus c. 10 (= Frisk, p. 4.9—10) in reference to the export of cassia from Mosullon and c. 56 (= Frisk, p. 18.16—17) for pepper and malabathrum from Nelcynda. The largest vessels in the Mediterranean were the giant grain ships, see L. Casson, The Isis and her Voyage, TAPhA 81 (1950), 51—56 who, on the basis of the description given by Lucian (Navig. 5) estimates the capacity of one these ships to be 1200—1300 tons and argues that this was a typical size for a grain ship. To date, despite the discovery of a considerable number of wrecks, underwater archaeology has produced more information about the cargoes carried than about the size of the ships involved, see the survey of wrecks in L. Basch, Ancient Wrecks and the Archaeology of Ships, IJNA 1 (1972), 11—15 (the Mahdia wreck had a keel at least 26 m long and the Sulcis ship was 23 m long).

[839] Periplus c. 30 (= Frisk, p. 10.9—11), text cited below p. 953, n. 1210.

[840] A new restoration proposed for an inscription from Palmyra originally published by M. Rostovtzeff, Berytus 2 (1935), 143—148 suggests that a Palmyrene permanently resident in Spasinou Charax may have held a magistracy in Mesene: . . ./σου Ααβει τὸν ἄρχ[οντα] Μαιση̣νων, ἀρέσαντα τῇ πατρίδι αὐτοῦ, [καὶ] τοῖς ἐνπόροις Παλ[μ]/υ-[ρηνοῖς τοῖς ἐν Χαρακι . . .]; see restorations in D. Schlumberger, Palmyre et la Mésène, Syria 38 (1961), 256—260. See also above n. 782, where Inv. X.38 is cited.

[841] For the date of the Tamil poems see K. A. Nilakanta Sastri, The Colas (Madras 1935), 1.36,68—71, who prefers the early centuries of the Christian era; cf. L. de la Vallée-Poussin, Dynasties et Histoire de l'Inde depuis Kanishka jusqu'aux invasions musulmanes (Paris 1935), 374—375.

[842] The relevant passages are discussed below p. 1042, n. 1608.

[843] Cf. E. H. Warmington, Commerce², 68, who incorrectly assumes that *Yavana* in Tamil literature always means Egyptian Greeks; similarly O. Stein, Yavanas in early Indian inscriptions, IC 1 (1935), 343—357 concludes that *Yavana* always refers to Greeks. Cf. P. Maile, Les Yavanas dans l'Inde Tamoule, JA 232 (1940), 99—102, who points out that the word can be used of Arabs or any other Westerners; so also S. Konow, Goths in Ancient India, JRAS (1912), 379. For *yona* meaning Persians see E. J. Thomas, The Question of Zoroastrian Influence on Early Buddhism, in: J. J. Modi Memorial Volume (Bombay 1930), 279.

[844] See the *stelai* discussed above n. 786.

[845] Ptolemy, Geog. I.11.7, see above n. 796.

[846] Ptolemy, Geog. I.14.1. Usually assumed to be a merchant, so A. Herrmann, Das Land der Seide und Tibet, 63—65. The theory of Polaschek, that the man referred to here is Alexander Polyhistor. c. 80—35 B.C., can be dismissed; see E. Polaschek, Ptolemy's Geography in a New Light, Imago Mundi 14 (1959), 35. We possess but a single fragment of moderate length from Polyhistor's Ἰνδικά, FGrHist no. 273. F 18, but its context suggests that the author drew on Megasthenes, not on personal knowledge.

[847] For the identification of this port see below p. 1047, n. 1638.

[848] HHS 118.5a; cf. E. Chavannes, TP 2 ser. 8 (1907), 185; Liang shu 54. 17a—b; F. Hirth, China, 173—178; Idem, Ch.St. I.19—20; G. F. Hudson, Europe and China, 89—90; M. P. Charlesworth, Trade-Routes, 72; M. Cary and E. H. Warmington, The Ancient Explorers, 106; R. Delbrueck, BJ 155/156 (1955—56), 268; Z. Kadar, ACD 3 (1967), 95: «*la première mission de diplomates et de commercants de grande importance . . .*»; Ying-

SHIH YÜ, Trade and Expansion, 159—160; E. H. WARMINGTON, Commerce^{2}, 131, 394g; J. PIRENNE, in: M. MOLLAT (ed.), Sociétés, 115 (sent by Marcus Aurelius!); J. FERGUSON, China and Rome, ANRW II 9. 2, above p. 594.

[849] The first effort at a systematic identification of the kingdom of *Ta-Ch'in* in Chinese sources was made by F. HIRTH, China and the Roman Orient (Shanghai/Hong Kong 1885). The book was a landmark in Sinology at the time of its publication and, although now unreliable on many points of detail, still remains the most widely read and influential work on the subject (recently reprinted, Chicago 1975). It is not possible here to deal with the problems of *Ta-Ch'in* at any length. HIRTH worked from the premise that all of the details given by the Chinese sources about *Ta-Ch'in* were capable of a rational explanation: the people of *Ta-Ch'in* practised sericulture, their capital city, An-tu, is divided into five equal parts, when a severe natural disaster strikes the kingdom the king is deposed and replaced by another, they trade by sea with An-hsi (Parthia), and they make clothes out of the down of water-sheep. HIRTH explained all this and more, beginning with An-tu and its seductive phonetic resemblance to Antioch. Subsequent excavations at Antioch have revealed that all of HIRTH's speculations about the topography of the site on the basis of the 'Hou Han-shu' were wrong; see G. DOWNEY, A History of Antioch in Syria from Seleucus to the Arab Conquest (Princeton 1961), 608—645. The down of the water-sheep is a particular favourite. HIRTH accepted BRETSCHNEIDER's suggestion that this was cloth made from thread-like excretions of sea-shells and that this was what was meant by the term *byssus*! This particular fable, whose acceptance by modern scholars demonstrates an almost absurd naivety, still continues to flourish (e. g. J. FERGUSON, ANRW II 9. 2, above p. 590). For the various meanings of *byssus* see E. WIPSZYCKA, L'industrie textile dans l'Égypte romaine: matières premières et stades préliminaires (Warsaw 1965), 40—41. See also a number of other studies which differ in detail with HIRTH: A. HERRMANN, Die Westländer in der chinesischen Kartographie, in: S. HEDIN, Southern Tibet, 8 (Stockholm 1922), 91—434; IDEM, Ta-ch'in oder das China des fernen Westens, MS 6 (1941), 212—272 (*Ta-Ch'in* = Arabia).

Japanese and French sinologists have, however, done much to clarify the meaning of *Ta-Ch'in*, but their work has been largely ignored by those in the west working on Roman trade with China. MASPERO, while editing a Taoist text unknown to HIRTH, noted that the description of *Ta-Ch'in* given there bore many of the characteristics of the Taoist Utopia; see H. MASPERO, Un texte chinois inconnu sur les pays de Ta-ts'in (Orient romain), in: IDEM, Mélanges posthumes sur les religions et l'histoire de la Chine III: Études historiques (Paris 1950), 102—108. The most detailed series of studies of Western topography in Chinese historical sources is that of K. SHIRATORI, A Study of T'iao-chih, MTB 15 (1956), 1—23; IDEM, The Geography of the Western Regions studied on the Basis of the Ta-ch'in Accounts, ibid., 73—163, and IDEM, Chinese Ideas Reflected in the Ta-ch'in Accounts, MTB 15 (1956), 25—72 (first published in Japanese in the 1920's and 1930's). In the latter article SHIRATORI demonstrates that many of the descriptive details about *Ta-Ch'in* found in the Chinese accounts are fictitious and reflect traditional Chinese concepts (for example, An-tu simply means 'city of peace'). The influence of Chinese Taoist Utopian ideas of the second century in shaping the accounts of *Ta-Ch'in* is examined in R. A. STEIN, Remarques sur les mouvements du Taoisme politico-religieux au II siècle ap. J.C., TP 2 ser. 50 (1963), 3—21, who also notes that some texts placed *Ta-Ch'in* in India or more frequently in northern Burma. See also for *Ta-Ch'in* in Taoism M. KALTENMARK, Lao Tzu and Taoism (Stanford 1969), 96, 111. Cf. F. GROSSO, Roma e i Parti a fine i inizio II secolo d. Cr. Atraverso le fonti cinesi, in: La Persia e il Mondo Greco-Romano (Rome 1966), 162—172, who argues that Kan Ying reached Barbaricum rather than Mesene, as is usually assumed, and that many of the distortions in the *Ta-Ch'in* accounts originated in the distorted and exaggerated accounts of his superior, Pan Ch'ao. (GROSSO knows nothing of the work of MASPERO, SHIRATORI, or STEIN.) C. P. FITZGERALD, China: A Short Cultural History^{2} (London 1950), 197—200 quotes with approval a then unpublished work of YANG HSIEN-YI, which identifies An-tu as Byzantium and T'iao Chih as the Crimea. The effort by FITZGERALD (and presumably also of YANG HSIEN-YI) to explain all of the peculiar details of the *Ta-Ch'in* accounts as descriptions of various Greek (even Xerxes' bridge is brought in!) and Roman institutions is totally ludicrous.

[850] HHS 118.5a; cf. E. CHAVANNES, TP 2 ser. 8 (1907), 185. Some have argued that the few Roman finds from Oc-eo confirm the Chinese reports about this embassy; so R. BRADDELL, Notes on Ancient Times in Malaya, JMBRAS 20.1 (1947), 181; IDEM, Arikamedu and Oc-eo, JMBRAS 24.3 (1951), 156.

One important point has been overlooked. The identification of An-tun, the king of *Ta-Ch'in*, as Marcus Aurelius goes back to F. HIRTH, China, 173—175. It has been accepted without question by Roman historians and sinologists alike. HIRTH's crude system of phonetical identification is thoroughly inaccurate, as noted above. Just as the name of the capital of *Ta-Ch'in*, An-tu, cannot be taken seriously, so also it is with the king An-tun. At the time when the 'embassy' was supposedly sent, the Roman Empire had two *Augusti*, Marcus Aurelius Antoninus and his brother by adoption Lucius Verus: the latter controlled the eastern part of the Empire and had charge of the war against Parthia, but in the official titulature both emperors shared the credit for the eastern victories, see K.-P. JOHNE, Zu den Siegernamen der Kaiser Marc Aurel und Commodus, Klio 48 (1967), 177—178; cf. a medallion commemorating Verus' victory in Armenia in R. WEILLER, Un médaillon de l'empereur Lucius Verus, CENB 5 (1968), 11.

Although the premature death of Lucius Verus resulted in a denigration of his character and achievements by historians in Antiquity and today (see the defence of Verus' role in the Parthian campaigns in P. LAMBRECHTS, L'empereur Lucius Verus: Essai de réhabilitation, AC 3 [1934], 192—210), for our purposes we must look at contemporary documents. Before his death in A.D. 169 the inscriptions of the eastern provinces usually refer to either Lucius Verus alone (e. g. so IGR III.666; SEG II.817) or to both emperors (e. g. IGR III. 106, 332, 847, 1354). What is important is that as far as its subjects were concerned, the Roman Empire had two rulers, one of whom, Lucius Verus, was more visible and successful in the East. Thus, if one is to suppose that the pseudo-embassy from *Ta-Ch'in* identified its country's rulers, both emperors would have been mentioned. This fact alone, i. e., that *Ta-Ch'in* had two 'kings', would have been so momentous to the Chinese court chroniclers, unaccustomed to the Roman concept of collegiality, that it would surely have been recorded.

[851] Such views are found, for example, in W. SCHOFF, Proc. Num. and Ant. Soc. of Philadelphia (1913), 56; M. P. CHARLESWORTH, Trade-Routes, 73, 105—109; C. G. F. SIMKIN, The Traditional Trade of Asia (London 1968), 35; J. THORLEY, G&R 16 (1969), 210—214; E. H. WARMINGTON, Commerce², 33: "Above all, Rome wished to be free of intermediaries . . ."; J. FERGUSON, ANRW II 9.2, above, p. 594.

[852] See also the works listed above p. 815, n. 713 on the popular, but erroneous view that Parthia attempted to gain a monopoly position in Oriental commerce.

[853] E. g. W. E. HEITLAND, The Roman Republic, 2 (Cambridge 1909), 157, 165, 188; G. COLIN, Rome et la Grèce de 200 à 146 av. J.C. (Paris 1905), 643—644; D. ST MARTIN, Il foedus romano con Callatis, Epigraphica (1948), 126—128 with an economic explanation for the Roman treaty with the Black Sea port of Callatis. In general economic motivation is stressed also in M. ROSTOVTZEFF, SEHHW and SEHRE², but in more guarded moments the great economic historian was more cautious; e. g. contrast his discussion of the free harbour established at Delos in 167 B.C. in SEHHW 2.787 with ibid., 1267.

[854] So first T. FRANK, Mercantilism and Rome's Foreign Policy, AHR 18 (1912—13), 233—252 (cf. J. I. MILLER, Spice Trade, 222: "The spirit of mercantilism is something fundamental in human government."). See now E. BADIAN, Roman Imperialism in the Late Republic² (Ithaca 1968), 16—21; P. A. BRUNT, The Equites in the Late Republic, in: Second International Conference of Economic History (Paris 1965), 117—137; A. H. M. JONES, Ancient Empires and the Economy: Rome, in: IDEM (P. A. BRUNT, ed.), The Roman Economy (Oxford 1974), 137. Also the general statements for Greece and Rome in G. E. M. DE STE CROIX, The Origins of the Peloponnesian War (Ithaca 1972), 218—220; M. I. FINLEY,

The Ancient Economy (Berkeley 1973), 150—176. For an analysis of Roman imperial motivation see also F. W. Walbank, Political Morality and the Friends of Scipio, JRS 55 (1965), 1—15.

[855] E. g. A. J. N. Wilson, Emigration from Italy in the Republican Age of Rome (New York 1966), 86—93; S. Lauffer, Das Wirtschaftsleben im römischen Reich, in: H. J. Heydorm and K. Ringshausen, Jenseits von Resignation und Illusion (Frankfurt/M. 1971), 135—153; cf. R. Thomsen, in: Third International Conference of Economic History (Paris 1969), 106—107 who in commenting on a paper by A. H. M. Jones makes much of the Roman government's "economic policy". A different approach is used by W. V. Harris, On War and Greed in the Second Century B.C., AHR 76.5 (1971), 1371—1385, who argues that personal greed for plunder by Roman senators and magistrates was an important motive in Roman imperialism. But this differs little from A. H. M. Jones, in: The Roman Economy, 114—124, who notes that a lot of men grew immensely wealthy by legal, or frequently illegal means as a result of Rome's conquest. All of this is a description of the results rather than of motivation; however, whereas simple greed by the state or its representatives can be broadly classified as an economic motive, it is the commercial motivation which has still to be demonstrated. The Marxist view is again put by I. Kertész, Das spätrepublikanische Rom (Zu E. Badian, Roman Imperialism in the Late Republic), Klio 56 (1974), 543—546, 550 who rather than dealing with the ancient evidence prefers to cite for support the opinions of modern scholars who hold views as misguided and erroneous as his own.

[856] M. Weber, General Economic History (New York 1961 — from the German edition of 1923), 151—157.

[857] J. Hasebroek, Trade and Politics in the Ancient World (London 1933), 22—43.

[858] M. I. Finley, The Ancient Economy, 41—44, 49—58.

[859] H. Pirenne, Economic and Social History of Medieval Europe (New York 1937); translated from the French edition of 1933), esp. 44—56; Idem, Medieval Cities: Their Origins and the Revival of Trade (Princeton 1925; repr. 1969), 106—129.

[860] A. H. M. Jones, The Economic Life of the Towns of the Roman Empire, in: Receuils de la Société Jean Bodin 7 (1955), now in: The Roman Economy, 40—43; Idem, LRE 2.864—872.

[861] K. Polanyi, Traders and Trade, in: J. A. Sabloff and C. C. Lamberg-Karlovsky, Ancient Civilisation and Trade, 138—143.

[862] Z. Kadar, Serica: Le role de la soie dans la vie économique et sociale de l'Empire romain, d'après les documents écrits, ACD 3 (1967), 92 states that the merchants engaged in the Eastern trade were orientals and foreigners. On the importance of non-Arabs and non-Moslems such as Persians, Jews, Christians (Nestorian and Coptic) in the Asiatic trade of the Islamic period see C. Cahen, Le commerce musulman dans l'Ocean Indien du Moyen Age, in: M. Mollat (ed.), Sociétés, 184—186.

Note also the general advocacy of the commercial importance of *equites* put forward in H. Hill, The Roman Middle Class in the Republican Period (Oxford 1952). As almost all recent scholars have realized, the vast majority of *equites* were men of landed not commercial wealth: e. g. E. Badian, Roman Imperialism in the Late Republic^2, 60—75; C. Nicolet, L'Ordre Équestre à l'époque républicaine (Paris 1966), 285—311, and M. I. Finley, The Ancient Economy, 49—50.

[863] Cicero, De Off. I. 150—151: *Iam de artificiis et quaestibus, qui liberales habendi, qui sordidi sint, haec fere accepimus. primum improbantur ii quaestus, qui in odia hominum incurrunt, ut portitorum, ut feneratorum. inliberales autem et sordidi quaestus mercennariorum omnium, quorum operae, non quorum artes emuntur; est enim in illis ipsa merces auctoramentum servitutis. sordidi etiam putandi, qui mercantur a mercatoribus, quod statim vendant; nihil enim*

proficiant, nisi admodum mentiantur; nec vero est quicquam turpius vanitate. opificesque omnes in sordida arte versantur; nec enim quicquam ingenum habere potest officina. minimeque artes eae probandae, quae ministrae sunt voluptatum 'cetarii, lanii, coqui, fartores, piscatores', ut ait Terentius. adde huc, si placet, unguentarios, saltatores, totumque ludum talarium. quibus autem artibus aut prudentia maior inest aut non mediocris utilitas quaeritur ut medicina, ut architectura, ut doctrina rerum honestarum, eae sunt iis, quorum ordini conveniunt, honestae. mercatura autem, si tenuis est, sordida putanda est; sin magna et copiosa, multa undique apportans multisque sine vanitate impertiens, non est admodum vituperanda; atque etiam si satiata quaestu vel contenta potius, ut saepe ex alto in portum, ex ipso portu se in agros possessionesque contulit, videtur iure optimo posse laudari. omnium autem rerum, ex quibus aliquid acquiritur, nihil est agri cultura melius, nihil uberius, nihil dulcius, nihil homine [nihil] libero dignius.

This passage forms the basis of Finley's recent analysis; M. I. Finley, The Ancient Economy, 41—44, 51—58; cf. the criticisms of M. W. Frederiksen, Theory, Evidence and the Ancient Economy, JRS 65 (1975), 165; also cited by R. MacMullen, Roman Social Relations 50 B. C. to A. D. 284 (New Haven 1974), 48. The usefulness of this passage as a test of contemporary attitudes is in some doubt, see D. Nörr, Zur sozialen und rechtlichen Bewertung der freien Arbeit in Rom, ZSS 82 (1965), 78—80 who notes that this passage reflects Greek philosophical attitudes: the ideal, not the real, world; cf. recently P. A. Brunt, Aspects of the social thought of Dio Chrysostom and of the Stoics, PCPhS 19 (1973), 21, 26—34 who argues that the passage is taken from Panaetius and thus does not reflect contemporary attitudes. A not dissimilar attitude is shown by Callistratus in the third century, Dig. L. 2.12: *Eos, qui utensilia negotiantur et vendunt, licet ab aedilibus caeduntur, non oportet quasi viles personas neglegi. denique non sunt prohibiti huiusmodi homines decurionatum vel aliquem honorem in sua patria petere: nec enim infames sunt. sed ne quidem arcentur honoribus, qui ab aedilibus flagellis caesi sunt, quamquam iure suo ita aediles officio isto fungantur. inhonestum tamen puto esse huiusmodi personas flagellorum ictibus subiectas in ordinem recipi, et maxime in eis civitatibus, quae copiam virorum honestorum habeant: nam paucitas eorum, qui muneribus publicis fungi debeant, necessaria etiam hos ad dignitatem municipalem, si facultates habeant, invitat.* Cf. P. Garnsey, Aspects of the Decline of the Urban Aristocracy in the Empire, ANRW 2.1 (1974), 232—237 who also deals with the exemption of traders from liturgies.

[864] Petronius, Sat. 75.10—76.10. The inherited fortune of the *libertus* Trimalchio was first invested in sea-borne commerce and, after an initial failure, the money gained in a successful trading venture was immediately used to buy land; cf. Sat. 48.3 and 77.3. For the Neronian date of the 'Satyricon' see K. F. C. Rose, The Date and Author of the Satyricon, Mnemosyne Suppl. 16 (Leiden 1971), passim, with a date of c. A. D. 65.

[865] For speculations on the model for Trimalchio see K. F. C. Rose, The Date and Author of the Satyricon, 79—81. For relationship of the description of the sources of Trimalchio's wealth to real economic conditions see H. C. Schnur, The Economic Background of the Satyricon, Latomus 18 (1959), 791—798, and P. Veyne, Vie de Trimalcion, Annales ESC 16 (1961), 213—247.

[866] For investment in land and the consequent rise into the municipal governing class of freedmen in the Roman Empire see M. L. Gordon, The Freedman's Son in Municipal Life, JRS 21 (1931), 65—77; cf. also R. MacMullen, Roman Social Relations, 48—56 on parallels to Trimalchio. For this pattern in Puteoli see J. H. D'Arms, JRS 64 (1974), 110—111. For the importance of foreigners and metics in the commerce of Classical Greece see in addition to Hasebroek (above n. 857) G. E. M. de Ste. Croix, The Origins of the Peloponnesian War, 261—267, 293—384 (who differs on a number of details from Hasebroek); K. T. Ridley, The Economic Activities of the Perioikoi, Mnemosyne 4 ser. 27.3 (1974), 281—292.

But in Egypt the pattern of Trimalchio could not be repeated. 'Αστοί were restricted to a small sum in their benefactions to their freedmen; cf. the Gnomon of the Idios Logos: BGU V. § 14: οὐκ ἐξὸν ἀστῷ ἀπελευθέροις διατάσσειν πλέον φ̅ς̅ ἢ [μ]η̣νιαίων ϛ̅ε̅.

For meaning of ἀστοί in the Gnomon see G. Uxkull-Gyllenband, Der Gnomon, 22—27 as including all ῞Ελληνες. For Prefect's control over manumission see Dig. XL.2.21. For *liberti* as heirs of their patrons in Rome see S. Treggiari, Roman Freedmen during the Late Republic (Oxford 1969), 216—217 and for a discussion of the legal questions see R. Besnier, Le règlement des successions des affranchis d'après les lois caducaires (Gaius, Institutes III. 42—54), StudClas 7 (1965), 55—65.

[867] In the field of Eastern commerce we may possess a notable example in Maes Titianus, who Cary suggests was the ancestor of the Maesii Titiani of Italy and Sicily of the late second century; M. Cary, CQ n. s. 6 (1956), 132; cf. also J. H. D'Arms, JRS 64 (1974), 115. For examples in the early Middle Ages see H. Pirenne, Medieval Cities, 116—123. Giovanni di Bicci (1360—1429), the founder of the Medici Bank had inherited only a relatively small estate and used a substantial portion of the profit from his banking enterprise to purchase both urban and rural real estate; see R. de Roover, The Rise and Decline of the Medici Bank, 1397—1494 (New York 1966), 48; Sebastion Ziani, who made his fortune in commerce, invested his profits in land and was elected Doge in 1172, was typical of the Venetian aristocracy; see F. C. Lane, Andrea Barbarigo, Merchant of Venice, 1418—1449 (Baltimore 1944), 12—15. Lane's study traces the business activities of Andrea Barbarigo and his descend ents. Andrea had begun from relative poverty to deal in commerce with the Levant; by the next generation the holdings of the family were primarily in urban and rural real estate. The fourth generation of the Barbarigo family had its wealth exclusively in land and government bonds; ibid., 15—43. The voluminous business records of Francesco di Marco Datini, a merchant from fourteenth-century Tuscany show that he, too, used much of the profits from his numerous and diverse investments in commerce, banking and industry to buy an estate and farmlands; see I. Origo, The Merchant of Prato: Francesco di Marco Datini (New York 1957), esp. 264—273. The motivation behind this marked pattern in both Antiquity and the Middle Ages — for both Trimalchio and Francesco di Marco Datini — is the same: investment in productive land was not only profitable, but above all it was much more secure than sea-borne commerce with its immense risks.

[868] That is to say that not only did investment flow from commerce into land, but also landed wealth was an important source of commercial (i. e. for both trade and money-lending) capital. Even in the commercial and 'industrial' (in the ancient sense) heartland of Italy around the Bay of Naples agricultural land was the primary form of investment. For the *villae rusticae* near Pompeii see J. Day, Agriculture in the Life of Pompeii, YCS 3 (1932), 165—203 and R. C. Carrington, Studies in the Campanian *Villae Rusticae*, JRS 21 (1931), 110—130. The production of wine, which was the chief activity on most of these estates, is traceable in Pompeii itself, see W. F. Jashemski, The Discovery of a Large Vineyard at Pompeii: University of Maryland excavations, 1970, AJA 77.1 (1973), 27—41; cf. for Puteoli J. H. D'Arms, JRS 64 (1974), 115—116. Social and economic conservatism alone do not account for this trend: the profitability of specialized agricultural production was also important. For the profitability of various crops see R. Duncan-Jones, The Economy of the Roman Empire (Cambridge 1974), 33—59, who analyses the advice of Varro, the Elder Pliny and Columella.

[869] For the use of land as security in public contracts see above n. 815. For an analysis of the finances of the Younger Pliny see R. Duncan-Jones, The Economy of the Roman Empire, 17—32 (who calculates that only about 10% of Pliny's income would be from lending out surplus cash, while 90% would be from the income of his estates). Landed estates not only provided a cash surplus which could be invested in usury and commerce, but also the products of specialized agriculture, such as wine and oil, were major commodities in long-distance trade. In ninth and tenth century Europe long-distance commerce originated in part from the efforts of large estates to market their excess natural produce: cereal grains and above all high quality wines, see G. Duby, Rural Economy and Country Life in the Medieval West (Columbia 1970), 45—46, 137—140; B. H. Slicher von Bath, The Agrarian History of Western Europe, A. D. 500—1850 (London 1963), 37, 130, who notes the close relationship between agricultural specialization and the development of long-distance commerce.

[870] O. Petr. 252, 266, 267, 271; cf. A. Fuks, JJP 5 (1951), 214—216; E. G. Turner, JRS 44 (1954), 59. For his father's wealth see Josephus, AJ XVIII.159—160, who mentions a loan of 200,000 to Cypros, the wife of Agrippa, and BJ V.205, where it is noted that he donated the gold to plate the nine doors of the Temple in Jerusalem. For the family see J. Schwartz, AIPHOS 13 (1953), 591—602.

[871] Josephus, AJ XIX.276—277.

[872] His early career is unknown. R. Cavenaile, Prosopographie de l'armée romaine d'Égypte d'Auguste à Dioclétian, Aegyptus 50 (1970), 217 no. 69 identifies the future Prefect with an officer named in OGIS 690 = SB I.1883 = Syringes II.1733: 'Αλέξανδρος, ἔπαρχος / κάστρων Θηβῶν. But the name is common among soldiers in Egypt e. g. CIL III.6580; DcEsRomEg 34A III.16 = ChLA III.208 = CPL 124. For the *praefectus castrorum* in Roman Egypt see J. F. Gilliam, The Veterans and the *Praefectus Castrorum* of the *II Traiana* in A. D. 157, AJPh 77 (1956), 365—372, whose analysis (p. 365) suggests that our text is from the second century. The attribution to Tiberius Iulius Alexander originates with J. Baillet, Syringes II. pp. 442—443. We are on more certain ground with the rest of Alexander's career; see OGIS 663 = IGR I.1165: Alexander as *epistrategus* (from Denderah). In A.D. 46 he was procurator of Judaea, Josephus AJ XX.100, 104; BJ II.220. (For the holding of earlier Egyptian posts by Prefects see C. A. Nelson, Vernasius Facundus, Prefect of Egypt, BASP 9.3/4 [1972], 52; for those who had been previously *epistrategus* see for example Subatianus Aquila in P.Oxy. XXXIV.2708 cf. J. Quaegebeur, Subatianus Aquila, épistratège de la Thébaïde [P.Oxy. XXXIV.2708], CE 44 [1969], 130—133.) He was with Corbulo in A.D. 63: Tacitus, Ann. XV.28.3: *Tiberius Alexander, inlustris eques Romanus, minister bello datus.* Alexander was among the earliest of Vespasian's adherents, Tacitus, Hist. II. 79 and Suetonius, Vesp. 6.3. For his role in the acclamation of Vespasian as emperor in the hippodrome at Alexandria see P. Fouad 8, cf. P. Jouguet, Vespasien acclamé dans l'Hippodrome d'Alexandrie (P. Fouad Ier. 8), in: Mélanges A. Ernout (Paris 1940), 210—210; it has been suggested that S.B. VI.9528 may be the beginning of Vespasian's speech in Alexandria, cf. the emendation of C. P. Jones, The Date of Dio of Prusa's Alexandrian Oration, Historia 22.2 (1973), 309 and the full study of Vespasian's visit to the city by A. Henrichs, Vespasian's Visit to Alexandria, ZPE 3.1 (1968), 51—80. In A.D. 70 he was Titus' chief of staff in Judaea, Josephus, BJ V. 45; cf. VI.237, describing Alexander as τοῦ πάντων τῶν στρατευμάτων ἐπάρχοντος; cf. IGLS VII.4011.7: [ἐπ]ά̣ρχου τ̣οῦ 'Ιουδαι[κοῦ στρατοῦ]. The suggestion that Alexander eventually became Prefect of the Praetorian Guard is made by E. G. Turner, JRS 44 (1954), 61—64 based on P. Hibeh II.215: Τιβερίου 'Ιουλίου 'Αλεξάνδρου τοῦ ἡγεμο[νεύσαντ]ος, γενομένου καὶ ἐπάρχου πραι[τωρίου].

[873] See above p. 644.

[874] For the Palmyrene invasion of Egypt see below p. 1064, n. 1727. The best study is found in J. Schwartz, Les palmyréniens et l'Égypte, BSRAA 40 (1953), 63—81. HAQuadr. tyr. 3. 1. describes Firmus as *Zenobiae amicus ac socius.*

[875] HAAurelian 32.2—3; HAQuadr.tyr. 2—6; cf. Zosimus I. 61.1, who simply reports trouble in Alexandria, and Ammianus XXII.16.15, who states that Aurelian destroyed the walls of Alexandria. On the nature of the HA account see R. Syme, Ammianus and the Historia Augusta (Oxford 1968), 29—30, 47, 55, 189; Idem, Emperors and Biography, 17—18, 28, 268—269. There are no coins of Firmus (HAQuadr. tyr. 2.1 reports he struck coins but, as Syme notes, this is a literary artifice). He appears in no other author by name and finds no mention in the documents: see A. H. M. Jones et al., The Prosopography of the Later Roman Empire, 1 (Cambridge 1971), p. 339 s. v. Firmus 1; T. D. Barnes, Some Persons in the Historia Augusta, Phoenix 26.2 (1972), 157. A single inscription (from Alexandria) may mention him: OGIS 711: – – – – – – – Σεβαστοῦ / 'Επειφὶ κ' / ἐπὶ Κλαυδίου Φίρμου / λαμπροτάτου ἐπανορθωτοῦ (the emperor's name has been erased); cf. C. Clermont-Ganneau, Odeinat et Vaballat, RB 29 (1920), 402—406 who restores [(ἔτους) ς' Οὐαβαλλά-

θου]. But the text should probably be assigned to Claudius Firmus, *corrector Aegypti*, who is at least papyrologically attested for A. D. 274: P. Mert. 26. The best study of the chronology of this period is now to be found in J. R. Rea, The Oxyrhynchus Papyri, XL, pp. 15—26 who assigns documents dated by 1 Aurelian 4 Vaballathus (P. Oxy. XL. 2898, 2908, 2921) to A. D. 270/71 and 2 Aurelian 5 Vaballathus (P. Oxy. XL.2904, 2936) to 271/72. Cf. now P. Oxy. XLIII.3115, an order of July 6, A. D. 271 to supply barley to a Palmyrene cavalry unit in Egypt. For the Prefects and deputy Prefect of Egypt in these years see J. Rea, The Date of the Prefecture of Statilius Ammianus, CE 44 (1969), 134—138. The possibility must be faced that Firmus is simply a creature of the unknown historian's fertile imagination, something which has been suggested for other usurpers in the H.A., cf. the discussion of Celsus in the 'Vita tyrannorum triginta' by J. Schwartz, L'Histoire Auguste et la fable de l'usurpateur Celsus, AC 33 (1964), 419—430. See also A. K. Bowman, Papyri and Roman Imperial History, 1960—75, JRS 66 (1976), 158 who suggests that behind the three Firmi in the 'Historia Augusta' there may be only two historical personages, the Firmus who led a revolt in Africa in the time of Valentinian, the other, Claudius Firmus who was Prefect of Egypt and later under Aurelian ἐπανορθωτής.

[876] HAQuadr. tyr 3.3: *idem et cum Blemmyis societatem maximam tenuit et cum Saracenis. naves quoque ad Indos negotiatorias saepe misit.*

[877] Both are the sons of Hairan. On their relationship see H. Seyrig, Syria 22 (1941), 242.

[878] A bilingual text from the agora at Palmyra honours ['Ιούλιον Μάξιμον, (ἑκατοντάρχην) λεγ. ———————] (restored from Palmyrene text). The dedication is made by Μᾶρκος Οὔλπιος 'Αβγαρος / Αἱρανου υἱὸς καὶ οἱ ἀπὸ Σπασινου / Χαρακος, H. Seyrig, Syria 22 (1941), 242 no. 12. In A.D. 141 a dedication to Marcus Ulpius Abgar describes him as ἔπαρχον / Παλμυρενῶ[ν το]ξοτῶν . . . H. Seyrig, Syria 22 (1941), 231 no. 3.
Marcus Ulpius Yarhai, the son of Ḥairan, is honoured by [ἔ]μποροι οἱ ἀν[αχ]θέντες ἀπὸ Σκυθ[ίας] / [ἐν] πλύῳ 'Ονα[ιν]ου 'Αδδουδανου . . . H. Seyrig, Syria 22 (1941), 259 no. 23; see for this text above n. 785. An undated bilingual inscription records honours bestowed by Marcus Ulpius Yarhai on a number of Roman officers: [Τιβέριον Κλαύδιον Φι————] / ἔπαρχον σπείρης πρώτης Αὐγούσ/της Θρακῶν ἱππέων καὶ χειλίαρχον / λεγεῶνος ἑκκαιδεκάτης Φλαουίας / Φίρμης καὶ ἔπαρχον εἴλης πρώτης / [Οὐλπί]ας δρομαδαρίων Παλμυρη/[νῶν καὶ πολείτη]ν τῆς Παλμυρη/[ν]ῶν πό[λ]εως· See H. Seyrig, Syria 22 (1941), 234 no. 5. The *cohors I Augusta Thracum equitata* is known to have been stationed in Arabia, see CIL II.109 and 110 from Motha (undated). A bilingual inscription of A. D. 155 records honours to Yarhai from a caravan that has come up from Spasinou Charax, OGIS 633 = IGR III.1053 = CIS II.3928; in an inscription of A. D. 157 the same individual is honoured by οἱ ἀναβά/ν[τε]ς [ἀπὸ Χ]ου[μ]άνων ἔνπ/[οροι] . . . ., CIS II.3960; another Palmyrene copy of the same inscription was found in the agora in 1928, see J. Cantineau, Inscriptions palmyréniennes, RAssyr 27 (1930), no. 9. The erection of a statue to Yarhai is recorded in ibid., no. 8 = Inv. X.78. In A. D. 159 a caravan from Spasinou Charax honours Yarhai, see J. Cantineau, Tadmorea, Syria 19 (1938), 73—74, no. 28A = Inv. X.107; in A. D. 156 a caravan which had gone down to the same city also honoured Yarhai, ibid., 75, no. 28B = Inv. X.111. In ibid, 75—76, no. 28C (A. D. 159) Yarhai is honoured by Ḥaddudan for the assistance he gave him in Spasinou Charax. The last text yields the name of a dedicator, Ḥaddudan, who comes from a noble Palmyrene family: the father, Yarḥibole, is known from a tessera as a holder of the high office of symposiarch, see RTP no. 35 with the reading of *frmn* given by J. T. Milik, Dédicaces faites par des dieux 237; a Greek inscription of A.D. 182 records that a statue was raised in honour of Ḥaddudan's daughter Tomallakis because she gave 2500 *denarii* towards the construction of a bath in the temple of Agibol and Malakbel, see H. Ingholt, Berytus 3 (1936), 109—112, no. 11. Ḥaddudan's son Awida and his nephew Yarḥibole are honoured in a decree of A.D. 175, CIS II.3914 = Inv. IX.25; on the family see J. T. Milik, op. cit., 31—35 and H. Ingholt, Two Unpublished Tombs from the

Southwest Necropolis of Palmyra, Syria, in: D. K. Kouymjian (ed.), Studies in Honor of George C. Miles, 45—47.

[879] A Palmyrene inscription from the vicinity of Qasr Ḥelqum refers to the cultivators who worked there with Abgar, the son of Hairan; probably the same man as in the texts listed above. See J. Teixidor, Syria 40 (1963), 33—37, 43—45.

[880] A Greek inscription from Umm el-ʿAmad records the honours bestowed on Soades, the son of Boliades, who ἐν πολλοῖς καὶ μεγάλοις καιροῖς / γν[η]σίως καὶ φιλοτείμως παραστάντα τοῖς / ἐ[μπόρ]οις καὶ ταῖς συνοδίαις καὶ τοῖς ἐν Ὀλογασιάδι / πολείταις, καὶ ἐπὶ τούτοις [ἐπισ]τολ[ᾷ] θεοῦ / [Ἁ]δριανοῦ καὶ τοῦ θειοτάτου α[ὐ]τοκράτορος / Ἀντωνείνου υἱοῦ αὐτοῦ μαρτυρεθέντα, / ὁμοίως καὶ διατάγματι Ποβλικίου Μαρκέλλου / καὶ ἐπιστολᾷ αὐτοῦ καὶ τῶν ἑξῆς ὑπατικῶν ./. . . Decrees were passed and statues set up for him by Palmyra and Spasinou Charax, R. Mouterde, Syria 12 (1931), 106—107 = SEG VII. 135; also J. Dobias, Novy napis z Palmyreny, LF 58 (1931), 1—19 and H. Seyrig, Syria 22 (1941), 247—248. The fragmentary Palmyrene text of this inscription has now been published by J. T. Milik, Dédicaces faites par des dieux, 13. The family is known: Soades' father Boliades was the brother of Zebida, the son of Soades, the son of Taimosams, symposiarch of the priests of Bel, honoured by a statue in the temple of Bel: RES 2129 = CIS II.3919 = Inv. IX.19. A second caravan inscription of A.D. 132 honours Soades, the son of Boliades, for his assistance: τοῖς ἐμπό[ροις καὶ ταῖς] / συνοδί[α]ις καὶ τοῖς ἐν Οὐολογασιᾴ[δι] / πολείταις. The dedication was put up in the sanctuary of Baalshamin by Agegos συνοδιάρχων; C. Sunant, MH 13 (1956), 216—217 = SEG XV.849 = Inscr. de Baalshamin no. 45. A fragmentary bilingual text from the agora also bears the name of Soades Boliades; see H. Seyrig, Syria 22 (1941), 225 = Inv. X.56. In general on Soades: M. Rostovtzeff, in: Mélanges Glotz, 2.799—801. On the honours paid to Soades see D. Schlumberger, Les quatre tribus de Palmyre, Syria 48 (1971), 125.

[881] See particularly Inv. III.7 = CIS II.3942: Ἡ βου[λὴ καὶ ὁ δῆ]μος Σεπτίμ[ιον Οὐορώδην] τὸν κρά/τιστον ἐ[πίτροπον] Σεβαστοῦ / δουκην[άριον, δι]κεοδότην / τῆς μητ[ροκολω]νείας καὶ ἀ/νακομίσαν[τα τ]ὰς συνοδίας / ἐξ ἰδίων καὶ μαρτυρηθέντα / ὑπὸ τῶν ἀρχεμπόρων καὶ λαμπρῶς στρατηγήσαντα καὶ / ἀγορανομήσαντα τῆς αὐτῆς / μητροκολωνείας καὶ πλεῖστα / οἴκοθεν ἀναλώσαντα καὶ ἀρέσαν/τα τῇ τε αὐτῇ βουλῇ καὶ τῷ δήμῳ καὶ νυνεὶ λαμπρῶς συμποσίαρχον τῶν το[ῦ θεοῦ] Διὸς Βήλου ἱρ/έων . . . (A.D. 266). A series of other texts mentions the honours paid to Worod by various individuals. In 262 a statue is dedicated by the city to Worod: κράτιστον ἐπί/τροπον [Σεβ]αστο[ῦ. . ., IGR III.1041 = Inv. III.11 = CIS II.3938; later in the same year a statue is dedicated to him by Iulius Aurelius Nebuzabad [στρατ]ηγὸς [τῆς] λαμπροτά/της κολωνείας, IGR III. 1040 = Inv. III.10 = CIS II.3939. In IGR III.1044 = Inv. III.9 = CIS II.3940 (A.D. 264 or 267); IGR III.1042 = Inv. III.8 = CIS II.3941 (A.D. 265); OGIS 645 = IGR III. 1043 = Inv. III.6 = CIS II.3943; and OGIS 646 = IGR III.1045 = CIS II.3942 Worod is honoured with various titles. A relief with the Palmyrene inscription *WRWD 'RGBṬ'* was published by H. Ingholt, Berytus 3 (1936), 93—94, no. 4; cf. also possibly J. Cantineau, Syria 19 (1938), 158, no. 36 F. A Palmyrene text from A.D. 272 mentions Ogeilu the son of Worod, "overseer of the porticos and the house of the guards (in the temple of Bel)", :*ʿgylw br wrwd dhw' qym ʿlʿmwr' /wbt nṭr'* (Inv. IX.28.8—9, republished by M. Gawlikowski, Inscriptions de Palmyre, Syria 48 [1971], 413—414 and J. T. Milik, Dédicaces faites par des dieux, 270; note that this text omits the *gentilicium* Septimius for all persons, hence there can be no question about the identification of Worod with Septimius Worod). A further text from A.D. 273 has been recently published: Syria 48 (1971), 420 which indicates that Ogeilu was succeeded in the same position by his son Yarhibol: *[w] yrḥb [wl' brʿ] gy [lw dy] ʿ[l b]t [nṭr]'* (line 12). For the Persian title ἀργαπέτης see above n. 748, and Inv. III.6 = CIS II.3943.

From a slightly earlier period we possess an inscription which honours Aurelius Worod: ἱππικὸν καὶ βουλευτὴν / Παλμυρηνόν OGIS 644 = IGR III.1036 = Inv. III.12 = CIS II.3937 (A.D. 258/259). A further Worod βουλευτής appears in an inscription honouring Septimius Hairan, see H. Seyrig, Les fils du roi Odainat, AAS 13 (1963), 162 no. 2; cf. now D. Schlumberger, Vorôrd l'agoranome, Syria 49 (1972), 339—342. For Ogeilu, the son of Worod in a recently published text of A. D. 272, see M. Gawlikowski, Inscriptions de Palmyre, Syria 48 (1971), 413—415.

[882] In IGR III.1050 = Inv. III.28 = CIS II.3948 a statue is set up for Taimarso, the son of Taime, the son of Moqimo, the son of Garba [συν]οδιάρχῃ by οἱ σὺν [αὐτῷ] ἀναβάντε[ς ἀπὸ] / Σπασίνου Χάρ[ακος ἀφειδήσαν]/τι αὐτο(ῖ)ς χρυσᾶ παλαιὰ δηνά⟨ι⟩ρ[ια τριακόσια ἀ[ναλωμά]τω[ν . . . (A.D. 193); see M. Rostovtzeff, in: Mélanges Glotz, 2.803. The brother of Taimarso is possibly to be identified in Inv. III.26, wherein the city honours Zebida, the son of Taime, the son of Moqimo, the son of Garba, κτίστην καὶ φιλόπατριν (A.D. 158). The timespan between the two texts is 35 years, but the genealogies of the two men are exactly identical. The major problem in Inv. III.28 is not prosopographical but rather numismatic: the meaning of χρυσᾶ παλαιὰ δηνα⟨ι⟩ρ[ια. See F. Heichelheim, New Light on Currency and Inflation, EH 3 (1935), 8—9; Idem, Roman Syria, ESAR 4.220—221 citing the text as evidence for the collapse of the *denarius*; cf. L. C. West, Gold and Silver Coinage Standards in the Roman Empire, NNM no. 94 (New York 1941), 118. More recently T. Pekáry, Le 'Tribut' aux Perses et les finances de Philippe l'Arabe, Syria 38 (1961), 238 n. 3 has suggested that these are old gold coins used by the Parthians(!) and J. Guey, Autour des Res Gestae Divi Saporis 1. Deniers (d'Or) et Deniers d'Or (de Compte) Anciens, ibid., 268—274, who argues that this is pre-A. D. 64 money of account. All of these theories are rejected by T. Buttrey, 'Old Aurei' at Palmyra and the Coinage of Pescennius Niger, Berytus 14.2 (1963), 117—128, who suggests that the old *aurei* are being contrasted with the new lighter coins issued in 193 by Niger at Antioch; cf. criticism in J. Guey, 'Old Aurei' at Palmyra . . . ., BSFN 19.7 (1964), 383—384.

[883] See the account of R. Hiyya, in: J. Neusner, PAAJR 31 (1963), 169. Note that the Babylonian Talmud also praised agriculture as the finest of men's endeavours and discouraged the practice of commerce, see S. Funk, Die Juden in Babylonien 200—500, 21—22.

[884] It must be admitted that apart from Inv. III.28 we cannot be certain that the men who are so frequently honoured by the caravans coming up from the Persian Gulf also had a financial interest in this commerce. They were the grandees of Palmyra, who were buried in the great tower tombs which yielded the remains of Chinese silk (above p. 728, n. 323). The protection they afforded the caravans cannot have been purely gratuitous and this suggests that men like Marcus Ulpius Abgar had a personal interest in the trade. See also the studies of Will and Rostovtzeff cited above n. 779.

[885] Cf. Plutarch, Cato maior 2.2, 3.1, 6.1 on Cato's parsimonious life style. Cato's own attitude to trade is interesting since he does not state that commerce is disreputable but rather that in contrast with farming it is an insecure livelihood: *Est interdum praestare mercaturis rem quaerere, nisi tam periculosum sit, . . . Mercatorem autem strenuum studiosumque rei quaerendae existimo, verum, ut supra dixi, periculosum et calamitosum* (Cato Agr. pref. 1, 3). This contrast between the security of land-owning and the great potential for disaster in commercial ventures may go a long way toward explaining the investment practices and attitudes which prevailed in Roman society.

[886] Plutarch, Cato maior 21.5—6: Cato, who had built his fortune from his landed estates, invested the proceeds in buying shares in shipping ventures through his freedman Quintio. Plutarch comments (21.5): Ἁπτόμενος δὲ συντονώτερον πορισμοῦ τὴν μὲν γεωργίαν μᾶλλον ἡγεῖτο διαγωγὴν ἢ πρόσοδον. See particularly the comments of T. P. Wiseman, New Men in the Roman Senate, 139 B. C. — A. D. 14 (Oxford 1971), 77—78 that Cato conformed to the normal pattern.

There is perhaps too great a tendency to characterize individuals as either merchants or agricultural entrepreneurs. The two are not so easily distinguishable. Cato and Varro wrote for the man who wanted to invest his money in agricultural land which would produce a marketable product. The owner of estates with vast vineyards or orchards of olive trees, to take the most important example, could also be an important wholesale merchant in these commodities (cf. the comments of E. Maroti, Die zeitgenössische warenproduzierende Landwirtschaft in der Sicht Varros, AAntHung 18 [1970], 125—126).

As Varro notes, some writers on agriculture, notably the older and the younger Saserna, regarded the management of *figlinae*, clay pits, for pottery, brick or tile production, as part of agricultural management (RR I.2.22—24). The entire phenomenon of the involvement of large estate owners in such industries is studied by T. P. Wiseman, The Potteries of Vibienus and Rufrenus at Arretium, Mnemosyne 4 ser. 16.3 (1963), 275—283 who argues that the Arretine potteries of C. Vibienus and T. Rufrenus were in the hands of men of senatorial families. The distinction between the great wine producer and the wholesaler should not be overemphasized. Frequently high political office, landholding and investments in commerce were not incompatible and increasingly it appears possible to identify families otherwise only known from inscriptions and pottery stamps with families and individuals mentioned in the abundant literary evidence of the late Republic (particularly Cicero): e. g. M. Tchernia, Les fouilles sous-marines de Planier (Bouches-du-Rhône), CRAI (1969), 306—309; J. H. D'Arms, CIL X.1792: A Municipal Notable of the Augustan Age, HSCPh 76 (1972), 209—214; R. J. Rowland, M. Porcius the Wine Merchant, Historia 18.3 (1969), 374—375.

[887] See the views of A. B. Hibbert, Origins of the Medieval Town Patriciate, P & P 3 (1953), 15—27, who attacks the theories of Pirenne. Hibbert's thesis is that established landed families could adapt themselves to new economic conditions. Thus the formation of the twelfth and thirteenth century patriciate involved an 'internal transformation' of a class which already existed.

[888] See E. H. Byrne, Easterners in Genoa, JAOS 38 (1918), 176—187; Idem, Commercial Contacts of the Genoese in the Syrian Trade of the Twelfth Century, QJE 31 (1916), 128—170, and Idem, Genoese Trade with Syria in the Twelfth Century, AHR 25 (1920), 191—219. Byrne points out that in the earliest period of Genoese commerce with the Levant the actual mechanics of the trade were in the hands of a small but important colony of Easterners domiciled in Genoa. These men were familiar with the intricacies of the trade to which the Genoese were new and acted as the actual directors of the Levant trade until the middle of the twelfth century, when the Genoese gradually pushed them aside.

[889] For use of freedmen as agents in commercial undertakings see Plutarch, Cato maior 21.6; Petronius, Sat. 76.9. In general on the use of freedmen in trade and industry see C. A. Forbes, The Education and Training of Slaves in Antiquity, TAPhA 86 (1955), 341—343, and far better, S. Treggiari, Roman Freedmen during the Late Republic (Oxford 1969), 91—106.

Freedmen are well attested at Palmyra: see Inv. IV.13; VIII.94; CIS II.4172; 4173; 4174; H. Ingholt, Inscriptions and Sculptures from Palmyra, Berytus 5 (1938), 106, 110, 124; Idem, Five Dated Tombs from Palmyra, Berytus 2 (1935), 91, 96, 99; Idem, Palmyrene inscription from the tomb of Malku, MUSJ 38 (1962), 106. For slaves in Palmyrene inscriptions see I. Sh. Shifman, Zametki po epigrafike Pal'miry, PalSb 25 (1974), 87—88 discussing Inv. XI.13.

Freedman are, of course, of less importance in Egypt, where slavery has never been a significant factor. We possess a document which names one Egyptian who sailed to India. P. Lond. II.260 = Stud. Pal. I. p. 74, a fragment of a register relating to the poll-tax prepared by Heracleides ἀμφοδάρχης in Arsinoe in A.D. 72/73, contains among the 173 male adults listed in columns i—v a certain Γαίων ὁ καὶ Διόδωρος who is ἐν τῆι Ἰνδικῆι, iii.41—42; cf. discussion in C. Wessely, Die Stadt Arsinoe (Krokodilopolis) in griechischer Zeit, SBAW 145 (1902), 4—51; O. Stein, Indien in den griechischen Papyri, in: Indologica Pragensia 1 (1929), 35—36. A Latin graffito in a cave shelter in Wadi Menih names another such traveller: *C. Numidius Eros hic fuit / anno XXIIX Caesaris exs / Ind⟨i⟩a red⟨i⟩es menos P⟨h⟩amen(oth)*, see D. Meredith, Inscriptions from the Berenice Road, CE 29 (1954), 283 no. 1. Freedmen also appear in PSI XIII.1321 = CPL 187 (first century), a fragmentary Latin text concerning some sort of business transactions, cf. J. F. GILLIAM, Notes on Latin Texts from Egypt, in: Hommages à Claire Préaux, 774.

[890] This can be exaggerated, e. g. an inscription of A.D. 168 records the donation of a temple with various bronze accoutrements to Gabii together with *sportulae* at various rates at its dedication and an endowment of 10,000 HS to finance the annual celebration of his daughter's birthday by A. Plutius Epaphroditus, *accensus velatus* and *negotiator sericarius*, CIL XIV.2793 = ILS 5449; cf. Z. KADAR, ACD 3 (1967), 96, who describes Plutius as one of the richest men in Italy; see also CIL XIV.2812. The description is far from accurate. A foundation of HS 10,000 is a paltry sum, considering that several such foundations over one million HS are known and sums over 100,000 HS are relatively common; see the figures collected in R. DUNCAN-JONES, The Economy of the Roman Empire, 171—175 (our text is no. 692 on p. 179).

[891] For the size of fortunes under the Empire see R. DUNCAN-JONES, The Economy of the Roman Empire, 343—344.

[892] M. I. FINLEY, The Ancient Economy, 53—60.

[893] For investments by senators in public contracts in the late Republic see E. BADIAN, Publicans and Sinners, 101—105 on the purchase of *partes* by senators and *equites*; cf. also more generally I. SHATZMAN, Senatorial Wealth and Roman Politics, Coll. Latomus 142 (Bruxelles 1975), 75—83.

[894] See C. M. WELLS, The German Policy of Augustus (Oxford 1972), esp. 246—250; cf. the criticism of H. v. PETRIKOVITS, GGA 228.1/2 (1976), 163—173.

[895] That the campaigns against Arabia and Ethiopia were premeditated expansion is suggested by S. JAMESON, Chronology of the Campaigns of Aelius Gallus and Petronius, JRS 58 (1968), 80—84. Cf. L. P. KIRWAN, Rome Beyond the Southern Egyptian Frontier, GJ 123.1 (1957), 15, who finds other reasons for the frontier expansion. The deliberate nature of this aggression is suggested by Strabo XVI.4.22: τοῦτον (Αἴλιον Γάλλον) δ' ἔπεμψεν ὁ Σεβαστὸς Καῖσαρ διαπειρασόμενον τῶν ἐθνῶν καὶ τῶν τόπων τούτων τε καὶ τῶν Αἰθιοπικῶν, ὁρῶν τήν τε Τρωγλοδυτικὴν τὴν προσεχῆ τῇ Αἰγύπτῳ γειτονεύουσαν τούτοις, καὶ τὸν Ἀράβιον κόλπον στενὸν ὄντα τελέως τὸν διείργοντα ἀπὸ τῶν Τρωγλοδυτῶν τοὺς Ἄραβας· προσοικειοῦσθαι δὴ διενοήθη τούτους ἢ καταστρέφεσθαι. ἦν δέ τι (δ' ἔτι in several Mss.) καὶ τὸ πολυχρημάτους ἀκούειν ἐκ παντὸς χρόνου, πρὸς ἄργυρον καὶ χρυσὸν τὰ ἀρώματα διατιθεμένους καὶ τὴν πολυτελεστάτην λιθίαν, ἀναλίσκοντας τῶν λαμβανομένων τοῖς ἔξω μηδέν· ἢ γὰρ φίλοις ἤλπιζε πλουσίοις χρήσεσθαι ἢ ἐχθρῶν κρατήσειν πλουσίων.

[896] Strabo XVII.1.53: Γάλλος μέν γε Κορνήλιος, ὁ πρῶτος κατασταθεὶς ἔπαρχος τῆς χώρας ὑπὸ Καίσαρος, τήν τε Ἡρώων πόλιν ἀποστᾶσαν ἐπελθὼν δι' ὀλίγων εἷλε, στάσιν τε γενηθεῖσαν ἐν τῇ Θηβαΐδι διὰ τοὺς φόρους ἐν βραχεῖ κατέλυσε· Cf. WO I.248, who suggests that the cause of the resistance was the introduction of the λαογραφία. Gallus himself described the campaign in a more grandiose fashion and added details about his organization of the Triacontaschoinos: OGIS 654 = IGR I.1293 = ILS 8995 = Inscr. Philae II.128: *defectioni[s] | Thebaidos intra dies XV, quibus hostem v[icit, bis a]cie victor, V urbium expugnator, Bore[se]|os Copti, Ceramices, Diospoleos Meg[ales, Op]hieu, ducibus earum defectionum inter[ce]|ptis, exercitu ultra Nili catarhacte[n transd]ucto, in quem locum neque populo | Romano neque regibus Aegypti [arma s]unt prolata, Thebaide communi omn[i]|um regum formidine subact[a], leg[atis re]gis Aethiopum ad Philas auditis, eo[dem] | rege in tutelam recepto* (the Greek text has προξενίαν παρὰ τοῦ βασιλέως λ[αβών), *tyrann[o] Tr[iacontas]choe(ni) in fine Aethiopiae constituto*. See J. LESQUIER, L'armée romaine, 7—8 on this campaign. For the probable meaning of τύραννος see Periplus c. 14 (= FRISK, p. 5.15), c. 16 (= FRISK, p. 6.8) and c. 20 (= FRISK, p. 7.10); cf. J. KENNEDY, Heraus ὁ τύραννος, JRAS (1913), 124—127 and A. DIHLE, Umstrittene Daten: Untersuchungen zum Auftreten der Griechen am Roten Meer (Cologne 1965), 52—53.

[897] Strabo XVII.1.53—54; Pliny, NH VI.181; Dio LIV.5.4—6. The great stele of Prince Akinidad from the excavations at Meroe has been thought to contain an account of the Meroitic version of the battles with the Romans and Petronius; J. Garstang, W. J. Phythian-Adams and A. H. Sayce, Fifth Interim Report on the Excavations at Meroe in Ethiopia, LAAA 7 (1914), 15—24, pl. IX; republished with commentary by F. L. Griffith, Meroetic Studies IV, JEA 4 (1917), 159—173. Queen Amenirens, his mother, is also mentioned in an inscription from Kawa, see M. F. L. MacAdam, The Temples of Kawa 1. The Inscriptions (Oxford 1949), no. 28: *Amnirens : qer : kdke,* "Amenirens, the ruler and Candace." For her inscriptions at Dakka, Meroitic Inscr. II, no. 92 = Idem, in: G. Roeder, Der Tempel von Dakke, 1 (Cairo 1930), 375—376, no. 1 and Griffith, Meroitic Inscr. II., no. 93 fully republished in G. Roeder, op. cit., 377—378, no. 3; cf. D. Dunham, The Royal Cemeteries of Kush IV: Royal Tombs of Meroe and Barkal (Boston 1967), 6 who places Amenirens and her son Akinidad considerably earlier; his criticisms are rejected by F. Hintze, Studien zur Meroitischen Chronologie und zu den Opfertafeln aus den Pyramiden von Meroe, ADAW (1959), 2.24—26; cf. a similar date for Amenirens (25—15 B.C.) in S. Wenig, Nochmals zur 1. und 2. meroitischen Nebendynastie von Napata, Meroitica 1 (1973), 155 and Idem, Bemerkungen zur Chronologie des Reiches von Meroe, MIO 13.1 (1967), 18—26 (with a date of 26—20 B.C. for Amenirens); chronology also accepted by M. F. L. MacAdam, Queen Nawidemak, AMAMB 23.2 (1966), 65—67. See S. Jameson, JRS 58 (1968), 72—75 who dates the two campaigns between 25 and 22 B.C. and ibid., 80—82 for Petronius' effort to make Meroe a subject state. On the route used by Petronius see L. P. Kirwan, GJ 123.1 (1957), 16, who favours the route of Petronius described by Pliny south of Qaṣr Ibrim over that of Strabo. A papyrus of the late first or early second century which contains an abbreviated literary account of Roman military action against Ethiopians and Trogodytes has been thought to describe Petronius' expedition, so J. Stroux, Das historische Fragment des Papyrus 40 der Mailänder Sammlung, SDAW (1952), 2.9—19 who proposes various restorations of the text; but the historical context of this small fragment is far from certain, see below n. 953.

It has been suggested that Petronius' forces took Meroe and remained in occupation of the site for several years. As evidence a bronze coin of Augustus and numerous fragments of Roman pottery are cited. So J. Garstang and W. S. George, Fourth Interim Report on the Excavations at Meroe in Ethiopia, LAAA 6 (1913), 6; but Strabo XVII.1.54 makes it certain that Petronius did not penetrate south of Napata. The occupation of Qaṣr Ibrim for at least a brief period in the early Empire is confirmed by the discovery of Greek and Latin literary and documentary papyri at that site, see W. H. C. Frend, Some Greek and Latin Papyri of the Period 50 B.C. to 50 A.D. from Q'asr Ibrim in Nubia, in: Proceedings of the XIV International Congress of Papyrologists, 103—111; now published by M. E. Weinstein and E. G. Turner, Greek and Latin Papyri from Qaṣr Ibrim, JEA 62 (1976), 115—130.

Queen Amanishakhete has also been identified with the Queen Candace in Strabo XVII.1.54; see G. A. Reisner, The Meroitic Kingdom of Ethiopia, A Chronological Outline, JEA 9 (1923), 73—74. One of her palaces was excavated at Wad-ban-Naga. See J. Vercoutter, Un palais des 'Candaces', contemporain d'Auguste, Syria 39 (1902), 277—296, fig. 8, pl. XIX.b (aerial photograph). A cartouche with the queen's name was found in the excavations. The pyramid of the Queen at Meroe was opened in 1834 by Ferlini. The results were published in G. Ferlini, Relation historique des fouilles opérées dans la Nubie (Rome 1838) (non vidi) summarized in E. A. W. Budge, The Egyptian Sudan (London 1907) 1.287—307; D. Dunham, The Royal Cemeteries of Kush IV: Royal Tombs at Meroe and Barkal (Boston 1957), 106—111. A good introduction to these problems may be found in F. F. Gadallah, Meroitic Problems, Kush 11 (1963), 201—204. It has also been argued that Petronius was responsible for the destruction of the Temple of Ammon at Jebel Barkal (Napata), so M. F. L. MacAdam, The Temples of Kawa, 2. History and Archaeology of the Site (Oxford 1955), 22; cf. the criticisms, ibid, 24—25 of Griffith's view that the traces of fire in many of the buildings at Kawa are to be attributed to Petronius' campaign. Questioned by H. F. C. Smith, The Transfer of the Capital of Kush from Napata to Meroe, Kush 3 (1955), 24. The matter is of some importance since the reconstruction of the temple is regarded by some as one of the few fixed points in the Meroitic king list. Amanishakhete's chronological connexion with this period is assured by MacAdam, The Temples of Kawa 1. The Inscriptions nos. 105 and 106; cf. also the two texts edited by F. Hintze, Studien 45—48 nos. 8a, 8b (and 8c?); cf. S. Wenig, Meroitica 1 (1973), 157 (with a date of 15—1 B.C.).

898 Discussion of the military and administrative arrangements on the Southern frontier of Egypt may be found in J. Lesquier, L'armée romaine, 458—475; U. Monneret de Villard, La Nubia Romana (Rome 1941), 2—34; and recently J. Desanges, Le statut et les limites de la Nubie romaine, CE 44 (1969), 139—147, who argues that the frontier of the province was at Philae and that the Dodecaschoenos was ruled indirectly by Rome through local aristocrats as a dependency. For the delineation of the area included in the term Dodecaschoenos see K. Sethe, Dodekaschoinos. Das Zwölfmeilenland an der Grenze von Aegypten und Nubien (Leipzig 1901), 4—18.

The type of administrative organization of this area has long been a matter of some controversy. Lesquier rejected earlier suggestions that the area became a nome. This theory was taken up again by H. Gauthier, Les nomes d'Egypte depuis Hérodote jusqu' à la conquête arabe (Cairo 1935), 191—192. The main support for this is an ostracon, SB III.6953 which mentions a σιτολόγος [Ψελκεως?] καὶ ἄνω τόπου τῆς ῑβ σχοίνου. The inscriptions from the Nubian temple at Dakka reflect an interesting array of arrangements. In OGIS 202 = Inschriften von Dakke no. 47a (A.D. 2) Apollonius, who visited the temple, is described as στρατηγὸς τοῦ / [Ὀμβ]είτου καὶ τοῦ περὶ Ἐλεφαν/[τίνην] κ̣αὶ Φίλας καὶ παραλήμπτης / [ἐρ]υθρᾶς θαλάσσης. Inschriften von Dakke no. 21a mentions the visit of another Apollonius στρατηγὸς Ὀμβείτου καὶ [τοῦ] περὶ Ἐλεφαντίνην καὶ Φίλ̣[ας] (the position of the inscription on the stone gives a t.p.q. of May 30, A.D. 26) and again the same individual in: Inschriften von Dakke no. 15: στρατηγὸς [Ὀμβείτου] καὶ τοῦ περὶ Ἐλ̣[ε]φαντίνην καὶ Φίλας / [καὶ πε]ρὶ Θήβας και Ἑρμ̣ωνθείτου, where he is accompanied by Heracleides γρα̣μ̣ματεὺς / [καὶ χ]ε̣ιριστ[ὴς το]ῦ̣ περὶ Ἐλ̣ε̣φα̣ν̣τίνην. Finally in: Inschriften von Dakke no. 40 Felix ⟨σ⟩τρατηγὸς Φιλῶν τοῦ [Ὀμ]βίτου records his visit to Pselkis. S. Ruppel has argued (in: Der Tempel von Dakke 3 [Cairo 1930], pp. 78—79) that the combination of titles was the result of a shortage of Greek administrative personnel in southern Egypt. On the isolation and small numbers of Greeks in Upper Egypt see O. Montevecchi, Nerone a una Polis e ai 6475, Aegyptus 50 (1970), 30—31; cf. W. Peremans, Sur l'identification des égyptiens et des étrangers dans l'Égypte des Lagides, AncSoc 1 (1970), 27—30. One reason may have been the fact that in general Lower Egypt was the land of larger estates, while Upper Egypt was an area of small farms; see on this H. Kees, Beiträge zur altägyptischen Provinzialverwaltung und der Geschichte des Feudalismus, GöttNachr. (1933), 582. That at least some of the financial bureaucracy was handled in the same manner is suggested by O. Bodl. II.2042: οἱ λυποὶ ἐπι/τηρητ(αὶ) εἰδῶ̣[ν ἄνω(?) τ̣ό]που τ̣ῆ̣ς ι̅β̅ σχοίνο(υ). The ostracon is probably from Syene (so Préaux) and the office of ἐπιτηρητὴς εἰδῶν is attested there (see texts listed below n. 899). Cf. C. Préaux, Ostraca de Pselkis de la Bibliothèque Bodléenne, CE 26 (1951), 152—155. Griffith has suggested in his discussion of the Demotic texts from Dakka (in: G. Roeder, Der Tempel von Dakke, 1.378—379) that an inscription of A.D. 10 records the decoration of the Roman sanctuary at the site by a *strategus* of the Dodecaschoenos, see CDGD, Dak. 29. The argument which has been raised in the past about whether or not the Dodecaschoenos was a nome in the Roman period is perhaps irrelevant. Desanges in his discussion (in which O. Bodl. II.2042 is not mentioned and an earlier text of SB III.6953 is cited) brings forward parallels from other parts of the Empire to show that military occupation can occur in subject states (see on this further below p. 983, n. 1352), but we should perhaps look elsewhere in Egypt. The Eastern Desert was beyond a doubt not a subject state, but we look in vain for any trace of a nome in the whole vast region before the time of Hadrian (see below n. 985). The uniting of some of the administrative functions of the Dodecaschoenos with those of a neighbouring nome is also well documented: e. g. P. Oxy XXII.2349 (A.D. 70) a decision of the *chrematistae* addressed to the *agoranomi* τοῦ Ὀξυρυγχείτου καὶ Ὀάσεως; but cf. on this N. Lewis, Four Cornell Papyri, RecPap 3 (1964), 28; cf. D. Hagedorn, Quittung eines Reiters über Empfang von Gerste, ZPE 1 (1967), 134—137; cf. N. Lewis, BASP 12.3 (1975), 108.

The Roman garrison in the Dodecaschoenos is relatively well attested. A considerable number of ostraca have been excavated at Dakka. For publication of these see WO II.1128—1146 (A.D. 205—217 or 218), 1223, 1265 (A.D. 187 — possibly from Dakka), 1220 (not a military text). Some of the ostraca from Firth's 1909 excavations were published by H. G. E. White, Graeco-Roman Ostraca from Dakka, CR 33 (1919), 49—53 = SB III.6953—6976, and others by C. Préaux, CE 26 (1951), 137—152. All of the latter collection are republished in O. Bodl. II.2003—2060, of which SB III.6971 = O. Bodl. II.2017; 6973 = O. Bodl. II.2021; 6975 = O. Bodl. II.2019; and 6969 = O. Bodl. II.2041 (A.D. 157—178/179). The military texts are republished in Rom. Mil. Rec. no. 78.1—77. Most of the ostraca are accounts or receipts for military allowances and do not mention the names of units larger than the century or *turma*, e. g. O. Bodl. II.2004, 2016, 2026, 2027, 2028, 2032. The inscriptions from Dakka mention individual members of the *legio II Traiana*: CIL III.79 = Inschriften von Dakke no. 28; the *legio III Cyrenaica*: OGIS 205 = IGR I.1365 = Inschriften von Dakke no. 1 and *legio XXII Deiotariana*: OGIS 207 = IGR I.1361 = Inschriften von Dakke no. 24. The only unit definitely stationed at Pselkis is the *cohors II Ituraeorum*: OGIS 208 = IGR I.1363 = Inschriften von Dakke no. 4; CIL III Suppl. 14147.7 = Inschriften von Dakke no. 72; also possibly: Inschriften von Dakke nos. 54 (= IGR I.1366) and 20 (= OGIS 204 = IGR I.1362) (A.D. 14/15—136). Evidence for Pselkis as a frontier post comes from the reference to *stationarii* in two inscriptions: Inschriften von Dakke nos. 81 and 85=86. See also P. Mich. III.203, a lengthy letter of the reign of Trajan from Saturnilus, a soldier who was based at Pselkis and stationed at an outpost further south or in the desert: ἔχω ἄλλους δέκα ὀκ[τ]ὼ μῆνες εἰς τ[ὰ] πραισίδια καθήμενος μέχρι εἰς Ψέλκιν εἰσέλ[θ]ω . . . (for a letter mentioning the dispatch of a soldier for patrol duty see P. J. Sijpesteijn, Letters on Ostraca, ΤΑΛΑΝΤΑ 5 [1973], 82—83, no. 13 a letter from Severus, a centurion, to his praefect, Domitius Respectus: *Onnuphrin Panamea eq(uitem) turma Procli dismisi ex cursu* [said to be from Esna]; for the text given here see J. F. Gilliam, Three Ostraca from Latopolis, BASP 13.2 (1976), 59—60. For the Roman garrison at Kalabsha (Talmis) see IGR I.1332—1356. Diplomatic transcriptions of all Greek inscriptions from the the site were published in H. Gauthier, Le temple de Kalabchah (Cairo 1911); cf. on SB I.4550, S. Daris, Note per la storia dell'esercito Romano in Egitto, Aegyptus 36 (1956), 239. Also in the region is the *cohors I Thebaeorum*, probably recruited locally and used in the Julio-Claudian period in the Eastern Desert (CIL III.6627 = ILS 2483) and in 98/99 the unit is attested at Syene together with the *cohors I Hispanorum* and *II Ituraeorum* (ILS 8907). For Talmis texts mentioning the unit see e. g. IGR I.1334, 1335, 1350, 1351, 1353 etc.

The archaeological surveys conducted in connection with the Aswan High Dam project have also revealed the existence of an extensive network of Roman roads in Lower Nubia: from Dakka to Kalabsha (ancient Talmis) and at Denduz, as well as a short stretch near Maharraqa (ancient Hiera Sycaminus). See J. J. Hester, P. M. Hobler and J. Russell, New Evidence of Early Roads in Nubia, AJA 74.4 (1970), 385—389. The roads are marked at every mile by columns, only one of which was inscribed with a numeral. This, however, is unusual for Roman roads. The known anepigraphic milestones have usually become this way as a result of subsequent damage, which is not the case in the Sudan, cf. G. Walser, Anepigraphe Meilensteine in der Schweiz, Chiron 4 (1974), 457. An inscribed stone of the time of Trajan was found at Abu-Turfa, see CIL III.14148^2 = IGR I.1357. See also L. P. Kirwan, GJ 123.1 (1957), 15, who argues that most Roman roads and posts are on the west side of the Nile in order to obtain the protection of the river against raids from the Blemmyes. For the Roman taverns found at Sayala just south of Hiera Sycaminus, see K. Kromer, Römische Weinstuben in Sayala (Unternubien), DAWW 95 (Vienna 1967), esp. 114—128. Kromer notes that even this far south there is little trace of Meroitic artifacts, most of the material excavated at Sayala is of Roman manufacture.

Further south at Qaṣr Ibrim there is less evidence for Roman occupation. The site briefly became a Roman fortress during Petronius' campaign (Strabo XVII.1.54; for possible structural remains from Petronius' occupation see T. KRAUS, Rom and Meroe, MDAI(K) 25 [1969], 49—51). Greek and Latin documents found in the excavations at Qaṣr Ibrim (above n. 897) indicate that the site was occupied for some time by Roman troops but all of the material is only palaeographically dated and thus is of little help in determining the length of stay there of the Roman garrison, see M. E. WEINSTEIN and E. G. TURNER, JEA 62 (1976), 115—130. Documentary evidence for a Roman presence at the site in the Severan period (cf. J. LESQUIER, L'armée romaine, 466) was adduced by R. MARICHAL, Deux papyrus latins relatifs à l'administration financière d'Égypte, BSAF (1964), 109—110 who read *Actum Prem[i* in P. Oxy. XII.1511.9 identified by him as a list of correspondence received by *tabularii*; accepted by J. DESANGES, CE 44 (1969), 139 and IDEM, ANRW, in press. The text is republished by MARICHAL in ChLA IV.265 with readings considerably different from those cited by DESANGES above. A new transcription of the text was published by FINK in Rom. Mil. Rec. no. 102 who read the line in question as *ạḍc̣ur.ị age . . .].* There thus exists no reference to a Roman garrison at Premis in this text.

[899] The land of Kush had been renowned since the Dynastic period as a major region for gold production. See G. POSENER, Pour une localisation du pays Koush, Kush 6 (1958), 39—68. Gold-washing basins have been found at Faras, Tomas, Wadi el-Arab, Sayala and Ikhmindi (from the Meroitic period). To these the ground gold ore was brought from the mines in the Wadi Cabgada and Wadi Allaki regions, see J. VERCOUTTER, The Gold of Kush: two Gold-Washing Stations at Faras East, Kush 7 (1959), 125—153. For the large number of gold finds in the royal tombs at Meroe and Jebel Barkal see D. DUNHAM, Royal Tombs of Meroe and Barkal, 23, 26, 29, 30, 33, 34, etc.; P. L. SHINNIE, A Gold Statuette from Jebel Barkal, Kush 7 (1959), 91—92: a solid gold statuette 637 grs. in weight. For the suggestion that the Roman frontier was established at Maharraqa to assure access to the gold mines see J. VERCOUTTER, Kush 7 (1959), 137—138. But the archaeological remains in the vicinity of the Wadi Allaki are mostly Islamic and seldom Roman; see T. SÄVE-SÖDERBERGH, Ägypten und Nubien (Lund 1941), 86—87; S.C. DUNN, Notes on the Mineral Deposits of the Anglo-Egyptian Sudan (Khartoum 1911), 21, 25; also on these mines K. FITZLER, Steinbrüche und Bergwerke im Ptolemäischen und Römischen Ägypten (Leipzig 1910), 6—7. Remains of ancient gold workings have also been found at Doshat but these may date from the Christian period; see H. N. CHITTICK, Antiquities of the Baṭn el Hajjar, Kush 5 (1957), 47—48. For gifts of gold and silver to Isis at Philae from the kings of Meroe, see CDGD Ph. 416 (A.D. 253).

It is also possible that exports from the Red Sea crossed the desert on a route from Berenice to Syene. This is suggested by a number of pieces of evidence which point to some connexion of the Elephantine region with Red Sea commerce. First, an early imperial inscription from the temple at Dakka, OGIS 202 = Inschriften von Dakke no. 47a: [᾿Απολ]λώνιος, Πτολεμαίου / [ἀραβάρ]χου υἱός, στρατηγὸς τοῦ / [᾿Ομβ]είτου καὶ τοῦ περὶ ᾿Ελεφαν/[τίνην] καὶ Φίλας καὶ παραλήμπτης / [τῆς ᾿Ερ]υθρᾶς θαλάσσης . . . (A.D. 2). Cf. on this text S. L. WALLACE, Taxation, 257—258. A second-century ostracon in the Bodleian Library from Elephantine or Syene (so PRÉAUX) provides a further link (O. Bodl. II.2042): ῾Αρενδώτῃ[ς Πατ]ρανσνοῦφις / καὶ Σανσνῷ[ς Παπρ]εμείθου καὶ Σαν/σνῶς Πατρ[ανσνοῦ]φις καὶ οἱ λυποὶ ἐπι/τηρητ(αὶ) εἰδῷ[ν ἄνω? τό]που τῆς ῑβ σχοίνο(υ) ᾿ι̣ν̣[δ]/ικ(ῆς) θ̣α̣λ̣ά̣σ̣σ̣[ης· Published with commentary by C. PRÉAUX, CE 26 (1951), 152—155. Possibly Σανσνώς is to be identified with Σανσνὼς Πα[πρε]μείθου καὶ οἱ λοιπ(οὶ) πρ(ά)κ(τορες) / ἀρ(γυρικῆς) ᾿Ελ[ε]φ(αντίνης) in WO II.292. Once at Syene goods from the East could be shipped down the Nile. For the harbour tax (ἐνόρμιον) at Syene see O. Brüss. Berl. 4, 32; WO II.262, 263, 274, 277, 302—304, 1276: most are receipts issued by μισθωταὶ εἴδους ὁρμοφυλακίας or ὁ ἀσχολούμενος τὴν ὁρμοφυλακίαν Σοήνης. See also CDGD Dak. 30, a mixed Hieroglyphic and Demotic inscription from the temple at Dakka in which a certain Harentyotf includes among his titles "great wizard in the towns (?) of the Great Green" (line 3 of the Hieroglyphic text). GRIFFITH suggested that the "Great Green" is to be identified as the Red Sea (ibid., p. 28); for this as one of the Egyptan names of the Red Sea see W. SPIEGELBERG, Die ägyptischen Namen für das Rote Meer, ZAS 66 (1930), 37. The title "wizard" is perhaps similar to that of the

Meroitic ambassador Tamis in Inscr. Philae II. no. 181.4: προφήτης. The same (?) Harentyotf occurs also in CDGD Ph. 257 and 410; his son Wayekiye, in Ph. 421 (possibly the same as on a tombstone from Ageba, Meroitic Inscr. II. no. 89) and his son Sesen in CDGD Ph. 223 and 409. On the hierarchy of these titles see F. L. GRIFFITH, Pakhoras — Bakharâs — Faras in Geography and History, JEA 11 (1925), 261. Despite this evidence for the contact of both Syene and possibly Meroe with the Red Sea I do not place any faith in the reconstruction of K. DITTMER, Zur Geschichte Afrikas. 2. Die ältere Geschichte Nordost- und Ostafrikas, Saeculum 15.1 (1964), 6—7 who without reference to any of the evidence cited above argues that Meroe was a major intermediary in the Red Sea and Indian Ocean trade with the East.

[900] Cf. Strabo XVII.1.54 describing Augustus' treatment of the Ethiopian ambassadors: πάντων δὲ τυχόντων, ὧν ἐδέοντο, ἀφῆκεν αὐτοῖς καὶ τοὺς φόρους, οὓς ἐπέστησε. The date of this embassy is about two years later than the end of the fighting. Augustus wintered on Samos in 21/20 B.C. on his way to Syria and the Ethiopians could not have reached him before Spring 20 B.C. For the chronology of Augustus' visits to Samos and Syria see P. HERRMANN, Die Inschriften Römischer Zeit aus dem Heraion von Samos, MDAI(A) 75 (1960), 88—90, 104—105, and E. W. GRAY, The Imperium of M. Agrippa: A Note on P. Colon. inv.nr. 4701, ZPE 6.3 (1971), 227—238. A second Meroitic embassy in 17 B.C. was responsible for an inscription at Dakka IGR I.1359 = Inschriften von Dakke no. 42 = SEG VIII.152. For the proposed identification of ἡ κυρία βασίλισσα in this inscription with Queen Amanishakhete see F. HINTZE, Studien, 26; cf. IDEM, Meroitic Chronology: Problems and Prospects, Meroitica 1.2 (1973), 137—138, 140 with speculative remarks about Meroitic policy towards Roman Egypt at this time.

Apart from Oriental commerce the Dodecaschoenos was also the route for shipping Roman goods to the south. These imports were probably paid for in Meroitic gold; C. PRÉAUX, Sur les communications de l'Éthiopie avec l'Egypte hellénistique, CE 27 (1952), 269 n. 1 collected some of the evidence for Roman goods found in the Meroitic kingdom, but new archaeological excavations have vastly expanded her list; cf. T. KRAUS, MDAI(K) 25 (1969), 54. Unlike other frontiers, where Roman coins frequently circulated widely in neighbouring areas, the territory of the Meroitic kingdom, despite the many excavations of the Aswan Salvage project which have made this the most well-explored area of Africa, has yielded few Roman coins. A coin of Claudius in building no. 950 at Meroe: J. GARSTANG and W. J. PHYTHIAN-ADAMS, LAAA 7 (1914), 3, 13; a bronze coin of Augustus from the mint at Alexandria was excavated at Mirgissa near the Second Cataract: G. LE RIDER, Monnaies Trouvées à Mirgissa, RN 6 ser. 11 (1969), 28, 30; a coin of Valens was found in Tomb 14 at Qustul: W. B. EMERY, Royal Tombs of Ballana and Qustul (Cairo 1938), 398; at El-Obeid a bronze coin of Diocletian struck at Alexandria was found by workmen in 1916 in an "old burial ground": A. J. ARKELL, A Roman Coin of the Emperor Diocletian at El Obeid, SNR 16 (1933), 187; a bronze coin tentatively identified as Augustan was also reported found in the excavations at Meroe: so J. GARSTANG and W. S. GEORGE, LAAA 6 (1913), 6; a coin of Domitian, another of Theodosius I, and a "small cache" of coins of Constantine II and Valentinian I were found in the excavations at Qaṣr Ibrim: J. M. PLUMLEY, Qaṣr Ibrim 1969, JEA 56 (1970), 17—18. A bronze coin of Theodosius I was found in a plundered tomb at Jebel Adda, N. B. MILLET, Gebel Adda Expedition. Preliminary Report, 1963—1964, JARCE 3 (1964), 9, pl. V.14.

The royal cemeteries at Meroe have yielded a number of articles of Greek (see below p. 945, n. 1184) and Roman manufacture. For example, the famous bronze head of Augustus (larger than life) found within the royal city of Meroe: J. GARSTANG and R. C. BOSANQUET, Second Interim Report on the Excavations at Meroe in Ethiopia, LAAA 4 (1911), 51, 66—71, pls. XII—XIV, XVa, XVIa; D. DUNHAM, Notes on the History of Kush, AJA 50 (1946), 382, pl. XXXI; L. P. KIRWAN, GJ 123.1 (1957), 18—19. Possibly the head was part of the loot from the Meroitic raid on Syene in the prefecture of Petronius (Strabo XVII.1.54). Roman influence has been noted in the temple at Musawwarat near Meroe: so J. GARSTANG, Preliminary Note on an Expedition to Meroe in Ethiopia, LAAA 3 (1910), 60, pl. XX. Similar influence has been observed in a bath complex (mound 98): so

J. Garstang, Third Interim Report on the Excavations at Meroë in Ethiopia, LAAA 5 (1912), 75—76. The Royal Baths also yielded the torso of a statue possibly to be identified with Augustus, ibid., 80, pl. Xb. Palace 294 in the Royal City yielded 4 rings with intaglio bezels of the Roman period and a deposit of Roman bronzes, J. Garstang and W. S. George, LAAA 6 (1913), 6, 10, pl. V.1—3. Samian ware was found in the excavations of the 'observatory' (building no. 950) at Meroe: W. J. Phythian-Adams, LAAA 7 (1914), 13. A shrine (no. 1000) at Meroe yielded a statue in a Roman breastplate and tunic, ibid., 15. Even in the south at Sennar four ring bezels (three of bronze, one of silver), which appear to be imports from the Mediterranean world, were found. See D. M. Dixon, A Meroitic Cemetery at Sennar (Makwar), Kush 11 (1963), 233, pl. LI.b. Grave 300 in the Middle Necropolis yielded a Roman glass toilet bottle dated to c. A.D. 300: L. P. Kirwan, Oxford University Excavations at Firka, 42. The excavations at Wadban-Naga yielded two fragments of *terra sigillata* from building F and the palace itself yielded a Roman terracotta, (dated to first century) as well as numerous objects of faience, some of which may be from Egypt: J. Vercoutter, Un palais des 'Candaces', contemporain d'Auguste, Syria 39 (1962), 276, 288—289, fig. 21; cf. 290—291. Also a Mediterranean amphora (p. 293, 296, fig. 33). An amphora found in the excavations of the temple at Aksha appears to be of Mediterranean origin also: W. B. Emery and L. P. Kirwan, The Excavations and Survey between Wadi-es-Sebua and Adindan, 1929—1931 (Cairo 1935), pl. XXXIX; cf. J. Vercoutter, Syria 39 (1962), 393. At Qaṣr Ibrim Greek ostraca and papyri were found in a fill together with Meroitic ostraca and papyri in a late first-century context: J. M. Plumley, Qaṣr Ibrim, 1963—1964, JEA 50 (1964), 5; Idem, JEA 56 (1970), 17. Objects brought from the Roman Empire are also mentioned in a Meroitic inscription from the pyramid of Kennethat Kabushiya, so first A. H. Sayce, A Greek Inscription of a King(?) of Axum found at Meroe, PSBA 31 (1909), 202. For two Roman *unguentaria* and a Roman bronze seated Zeus found at Kawa, see M. F. L. Macadam, The Temples of Kawa, 2.92, 115, 148, no. 0093, pl. LXXXI.b, 158, nos. 0530 and 0692. A large Mediterranean amphora was found in a Meroitic tomb at Nelluah, see M. Almagro et al., Excavations by the Spanish Archaeological Mission in the Sudan, 1962—1963, and 1963—1964, Kush 13 (1965), 84—85, fig. 3. Meroitic tombs near Serra yielded an offering table with a possible Greek inscription, and two glass beakers, one with a mould-blown Greek inscription, see T. Säve-Söderbergh, Preliminary Report of the Scandinavian Joint Expedition, Kush 11 (1963), 65—66. The cemetery of West Sedeinga yielded thousands of fragments of broken glass vessels as well as several dozen intact footed-flute glasses in colourless or green transparent glass or with polychrome and gilded decoration and with Greek inscriptions, see J. Leclant, JGS 15 (1973), 52—68. Excavations at Meroe yielded several bronze lamps, two bronze basins and a silver goblet with a relief scene (all dated late first century B.C. to second century), see G. A. Reisner, The Pyramids of Meroe and the Candaces of Ethiopia, BMFAB 21 (1923), 25—26 and Idem, Silver Goblet from Meroe, ibid. 23 (1925), 10. Pyramid nos. 17 and 28 at Meroe yielded several Roman amphorae with Latin stamps, S. Wenig, MIO 13.1 (1967), 28—29. For Roman influence on Meroitic art and architecture see T. Kraus, MDAI(K) 25 (1969), 55—56. Such Classical influence is still detectable in the Church architecture of seventh century Faras, see K. Michalowski, Polish Excavations at Faras, 1962—1963, Kush 12 (1964), 198.

The famous Latin inscription from Musawwarat es-Safra (now lost) was first seen by Lepsius in 1844 and published as CIL III.83: *bona fortuna dominae / reginae . in . multos . an/nos . feliciter . venit / e urbe . mense apr/die XV vidi taci/tus.* Many of Lepsius' readings are uncertain and it has been suggested that the inscription was the joke of a nineteenth- or twentieth-century traveller. The original stone was destroyed but Hintze recovered Lepsius' squeeze and published a photograph of it (see citation below). Cf. T. Mommsen, Römische Geschichte^9, V (Berlin 1922), 595 suggested that the author of the text was a Meroitic ambassador back from Rome. Accepted as genuine by U. Monneret de Villard, Storia della Nubia cristiana, 17; L. P. Kirwan, GJ 123.1 (1957), 18, who give first to third century dates and cite the inscription as evidence of Roman penetration. A critical review of the inscription was made by P. L. Shinnie, A Late Latin Inscription, Kush 9 (1961), 284—286, who notes that two earlier travellers have left variant transcriptions of the stone from 1822 and that the text may have been the work of a Nubian with little knowledge of Latin c. A. D. 600. (Although not noted by SHINNIE, there is some support for this suggestion among the Christian-Greek graffiti from the island of Sai in Nubia, e. g., a text in barbarized Greek with the numeral *I V* and the word ἀννου. See A. H. SAYCE, Karian, Egyptian and Nubian-Greek Inscriptions from the Sudan, PSBA 32 [1910], 266—267 no. 6, pl. XLI.6.) For rediscovery of LEPSIUS' squeeze see F. HINTZE, The Latin Inscription from Musawwarat es Sufra, Kush 12 (1964), 296—298, pl. LVI, who returns to the traditional date, first to third century.

[901] Strabo XVI.4.22—24; Pliny, NH VI.160; Dio LIII.29.3—8; Josephus, AJ XV.317; Res Gestae 26.5; S. JAMESON, JRS 58 (1968), 76—77 suggests the dates summer 26 to autumn 25 B. C. for the expedition and that Aelius Gallus turned back because he was recalled. New evidence for the preparations made for the expedition may be found in P. Oxy. XXXVII.2820. It was originally argued that the actions mentioned therein referred to Cornelius Gallus as Prefect of Egypt, see M. TREU, Nach Kleopatras Tod (P. Oxy. 2820), Chiron 3 (1973), 221—233, but cf. N. LEWIS, P. Oxy. 2820: Whose Preparations ?, GRBS 16.3 (1975), 295—303, who plausibly suggests that Aelius Gallus' preparations for the Arabian campaign are being described (Strabo XVI.4.23). The geographic limits attained by the expedition have been the subject of much controversy (largely ignored by classical scholars). It was initially thought by the American excavators of Timna' that the burned layer at that site must be due to this expedition; see W. F. ALBRIGHT, Review of J. RYCKMANS, L'institution monarchique en Arabe Méridionale avant l'Islam (Louvain 1951), JAOS 73 (1953), 37 — c. 25 B. C. or "a few years later". Cf. J. PIRENNE, Le royaume sud-arabe de Qataban et sa datation (Louvain 1961), 93—124 (the fullest discussion). For a discussion of the date of destruction of Timna' see below p. 957, n. 1224. Further on the geography of Gallus' march see H. v. WISSMANN and M. HOFNER, Beiträge zur historischen Geographie der vorislamischen Südarabien (Vienna 1952), 31—35; H. v. WISSMANN, Ḥimyar, Ancient History, Le Muséon 77 (1964), 435; A. DIHLE, Umstrittene Daten (Cologne 1965), 80—84. For the Arabian king Ἰλάσαρος (Strabo XVI.4.24) see J. RYCKMANS, Yarîm 'Aymân II, Roi de Saba ?, Le Muséon 64 (1951), 148—149. The expedition was perhaps not entirely without success. Two generations later the Himyarite king of Southern Arabia was a Roman client; so Periplus c. 23 (= FRISK p. 7.29—30): (Χαριβαήλ) συνεχέσι πρεσβείαις καὶ δώροις φίλος δὲ τῶν αὐτοκρατόρων. The Ṣana hoard also contained a number of Himyarite coins which have on the obverse an imitation of the head of Augustus, see P. BONESCHI, Le Martyrium Arethae et les monnaies sabéennes à inscriptions humiliantes, RSO 39 (1964), 117—118; IDEM, Inscriptions humiliantes de monnaies sabéennes, RSO 29 (1954), 17—19.

[902] Strabo XVI.4.22. The fabled wealth of Arabia in gold and silver is confirmed by the South Arabian inscriptions: e.g. Philby 2 (seven gold votive offerings) cf. on this text A. F. L. BEESTON, Notes on Old South Arabian Lexicography II, Le Muséon 63 (1950), 261—262; Fakhry 14 (a king of Ma'in makes a gold offering), cf. A. F. L. BEESTON, Le Muséon 66 (1953), 113—115; cf. in general A. K. IRVINE, Some Notes on Old South Arabian Monetary Terminology, JRAS (1964), 24 n. 6 who suggests that since the weight of many offerings is not given they may be gilt. For silver offerings see RES 4191, Ja 608, 609, 624, 669, 693, 700, 703, 755, CIH 407 (for the meaning of *ṣrf* see A. JAMME, Inscriptions de al-'Amâyid à Mâreb, Le Muséon 68 (1955), 320—321 who suggests bronze; cf. J. RYCKMANS, Himyaritica (2), Le Muséon 79 (1966), 482 who argues that this must be silver. For finds of gold jewellery in South Arabia see for example, a gold necklace in the Muncherjee collection, K. KATZ, A South Arabian Carving of Alabaster, JWAG 17 (1954), 81—82, fir. 7 and the publication of all of the gold jewellery in the collection by G. TURNER, South Arabian Gold Jewellery, Iraq 35.2 (1973), 127—139; B. DOE, Southern Arabia (London 1971), pls. VII—VIII.

[903] E. g. M. ROSTOVTZEFF, APF 4 (1907/08), 308—309; T. R. HOLMES, The Architect of the Roman Empire 2 (Oxford 1931), 18—19; G. F. HOURANI, Arab Seafaring, 30; J. I. MIL-

ler, Spice Trade, 13—14; E. H. Warmington, Commerce², 14—15. Against this view see S. Jameson, JRS 58 (1968), 80.

[904] Strabo XVI.4.21, 24.

[905] T. R. Holmes, The Architect of the Roman Empire, 2.101; J. I. Miller, Spice Trade, 15 with much nonsense about the "commercial plan of Augustus"; J. Thorley, G & R 16 (1969), 212—213.

[906] Pliny mentions geographic works by Dionysius of Charax and Juba dedicated to Gaius Caesar on the eve of his *expeditio Arabica* further described as *in Armeniam ad Parthicas Arabicasque res*, NH VI.141, XII.55—56, XXXII.10; cf. FGrHist no. 275, F 1—3; cf. NH VI.160: *Romana arma solus in eam terram adhuc intulit Aelius Gallus ex equestri ordine: nam C. Caesar Augusti filius prospexit tantum Arabiam*; also II.169: Gaius Caesar operated *in Arabico sinu*. For *Arabicus sinus* as the Gulf of Aqaba see G. W. Bowersock, JRS 61 (1971), 227. Less specific for the events of A. D. 1 is the Pisan cenotaph, ILS 140. 9—10: *consulatum quem ultra finis extremas popu/li [Ro]mani bellum gerens feliciter peregerat.* Cf. Velleius Paterculus II.102.2: *Armeniam deinde ⟨Gaius⟩ ingressus prima parte introitus prospere ⟨rem⟩ gessit*; cf. W. John, Zum armenischen Feldzug des Gaius Caesar im Jahre 2 n. Chr., Hermes 78 (1943), 108—109. On Gaius' eastern mission see also E. Koestermann, Historia 7 (1958), 334. For numismatic evidence of Armenian resistance to Roman pressure during the Augustan period before Gaius' mission see P. Z. Bedoukian, Some Unpublished Coins of the Artaxiads of Armenia, in: D. K. Kouymjian (ed.), Studies in Honor of George C. Miles, 28—29.

[907] So G. W. Bowersock, JRS 61 (1971) 227.

[908] Periplus c. 26 (= Frisk, p. 8.32): Εὐδαίμων δὲ ἐπεκλήθη, πρότερον οὖσα πόλις, ὅτε, μήπω ἀπὸ τῆς Ἰνδικῆς εἰς τὴν Αἴγυπτον ἐρχομένων μηδὲ ἀπὸ Αἰγύπτου τολμώντων εἰς τοὺς ἔξω τόπους διαίρειν ἀλλ' ἄχρι ταύτης παραγιγνομένων, τοὺς παρὰ ἀμφοτέρων φόρτους ἀπεδέχετο, ὥσπερ Ἀλεξάνδρεια καὶ τῶν ἔξωθεν καὶ τῶν ἀπὸ τῆς Αἰγύπτου φερομένων ἀποδέχεται. Νῦν δὲ οὐ πρὸ πολλοῦ τῶν ἡμετέρων χρόνων Καῖσαρ αὐτὴν κατεστρέψατο. Students of the 'Periplus' have long been uncomfortable with this text. E. A. Schwanbeck, Über den Periplus des Erythräischen Meeres, RhM 7.3 (1850), 352—354 argued that a Roman attack was impossible and emended Καῖσαρ to Χαριβαήλ. Mueller, GGM, 1, p. 277 read 'Ελισαρ or 'Ιλαῖσαρ. So still H. v. Wissmann, Ḥimyar, Ancient History, Le Muséon 77 (1964), 481.

[909] M. P. Charlesworth, Some Notes on the *Periplus Maris Erythraei*, CQ 22 (1928), 99; A. Dihle, Umstrittene Daten, 22—24; J. I. Miller, Spice Trade, 15; E. H. Warmington, Commerce², 15.

[910] So M. Rostovtzeff, APF 4 (1907/08), 309; E. Leider, Der Handel von Alexandreia, 54; G. F. Hourani, Arab Seafaring, 31.

[911] So E. Kornemann, Janus 1 (1921), 61 n. 4, 63; W. Schur, Die Orientpolitik des Kaisers Nero (Leipzig 1923), 48; Idem, Zur neronischen Orientpolitik, Klio 20 (1926), 221—222; W. Schmid, PhW 26 (June, 1928), 788; F. Altheim and R. Stiehl, Die Datierung des Königs 'Ezānā von Aksūm, Klio 39 (1961), 247.

[912] The theory and arguments go back to Reinaud. Altheim, beginning from Pirenne's third-century date for the 'Periplus' (see below p. 980, n. 1343), sought to reinforce this attribution by arguing that the Καῖσαρ of Periplus c. 26 belongs to the time of Septimius Severus. This, it is argued, is what Zosimus I. 8.2 refers to when he speaks of a conquest of all of Arabia by Septimius Severus. But since the 'Periplus' refers to a Καῖσαρ, Altheim argues that the army marched south under the command of Caracalla before he became Augustus: hence a date of A. D. 196—198. See F. Altheim and R. Stiehl, Die Araber in der Alten Welt, 1 (Berlin 1964), 42—44. This theory and Pirenne's date for the 'Periplus' are criticized by A. Dihle, Umstrittene Daten, 16—25, who rightly points out that sheer

distance precludes the possibility of a campaign. DIHLE's work is in turn attacked in F. ALTHEIM and R. STIEHL, Die Araber in der Alten Welt, 4 (Berlin 1967), 494—495. The criticism of DIHLE found here is primarily polemical and in bad taste and adds little to the argument. ALTHEIM now argues that a Red Sea fleet was used in the operation (from Dio LXXV.14.3) and that Herodian III. 9. 3 as emended by him supports this hypothesis: ὁ δὲ Σεβῆρος διαβὰς τὴν τῶν ποταμῶν μέσην, τήν τε [καὶ] 'Αδιαβηνῶν χώραν ἐπέδραμε καὶ τὴν [εὐδαίμονα] 'Αραβίαν. (For the total unreliability of Herodian as a source for these events see again recently, Z. RUBIN, Dio, Herodian, and Severus' Second Parthian War, Chiron 5 [1975], 419, 428—430). Definitive rejection of this aberration follows two lines of argument: (i) proof that the area in which Septimius Severus conducted his campaigns was known as Arabia; (ii) a demonstration that the thesis cannot be supported from the historical evidence for Septimius Severus' reign.

An abundance of literary and documentary evidence is available to demonstrate the first argument. See Xenophon, Anab. I.5.1: 'Εντεῦθεν ἐξελαύνει διὰ τῆς 'Αραβίας τὸν Εὐφράτην ποταμὸν ἐν δεξιᾷ ἔχων σταθμοὺς ἐρήμους πέντε παρασάγγας τριάκοντα καὶ πέντε; Dio LXVIII.31 describing Trajan's campaign: Μετὰ δὲ ταῦτα ἐς τὴν 'Αραβίαν ἦλθε, καὶ τοῖς 'Ατρηνοῖς, . . . ἐπεχείρησε. A Syriac inscription of A.D. 165 from Sumatar Harabesi refers to "Tiridates, son of Adhōnā, ruler of 'Arabh": J. B. SEGAL, BSOAS 16 (1954), 24—25 no. 11. In Hatra inscription no. 79 line 14 reference is made to *bhṭṛ' w'rb*, cf. A. CAQUOT, Nouvelles inscriptions araméennes de Hatra, Syria 40 (1963), 2—6 no. 79, who suggests a reference to the neighbouring region of *bēt arbāye* and translates "à Hatra et dans la Aribiya". Cf. F. ALTHEIM and R. STIEHL, Die Araber in der Alten Welt, 4.245,249: „*in Hatra und bei den Beduinen*". Cf. J. TEIXIDOR, Berytus 17 (1967), 9—11. See also A. CAQUOT, Syria 32 (1955), 271 no. 78, a fragmentary inscription in which there is mentioned a *qr/d' 'rby'*. See also the inscriptions of Sanatruq I in A. CAQUOT, Nouvelles inscriptions araméennes de Hatra (VI), Syria 41 (1964), 268—269, 271 nos. 194—199, 203: *snṭrwq mlk' dy 'rb;* cf. no. 193: *Vologases mlk' dy 'rb*. For the distinction between *'rb* and *'rby'y* see J. TEIXIDOR, Syria 41 (1964), 281—283. In P. Dura 22.3 (A. D. 133/4) and P. Dura 25.3 (A.D. 180) we find Dura described as Εὐρωπὸς ἡ πρὸς 'Αραβίᾳ (restored in P. Dura 25). Also probably in the Naqsh-i Rustam inscription of Shapur I, line 2: κα[ὶ κα]ṭ[έχω] ἔ̣θ̣νη . . . 'Αραβίαν. Cf. A. MARICQ, Syria 35 (1958), 305 n. 5 for the meaning. For northern Mesopotamia as Arabia see also the discussion of Byzantine and Syriac sources in L. DILLEMANN, Haute Mésopotamie orientale et pays adjacents (Paris 1962), 75—78.

With the Roman evidence ALTHEIM clearly is at a disadvantage: he knows little about it. Caracalla could not have led a fleet against Aden in A. D. 196 or 197 (198 must be excluded, as he was Augustus by early spring [cf. BGU II.362]), since he was born in A. D. 188 and would have been under ten years of age at this time. See on the chronology T. D. BARNES, The Family and Career of Septimius Severus, Historia 16 (1967), 92—93 and A. BIRLEY, Septimius Severus, The African Emperor (New York 1972), 124—125. ALTHEIM, op. cit., 4.288,495, cites as evidence for the existence of Septimius Severus' naval activity Dio LXXV.14.3 which reports that C. Fulvius Plautianus sent some centurions to steal ἵπποι τιγροειδεῖς for him from an island in the Red Sea. But the chronology of this piece of evidence is not certain. For Plautianus' career see the thorough survey of F. GROSSO, Ricerche su Plauziano e gli avvenimenti del suo tempo, RAL 23 (1968), 7—58; cf. A. BIRLEY, op. cit., 295. A further chronological problem is also obvious. ALTHEIM's theory necessitates a visit to Egypt in 196 or 197 by Septimius Severus or Caracalla. But until February 197 Severus was fighting for his very existence and is not likely to have spared the resources for an expedition to Southern Arabia. More important, no member of the imperial family set foot in Egypt before A. D. 199. See the evidence in K. HANNESTAD, Septimius Severus in Egypt. A Contribution to the Chronology of the Years 198—202, C & M 6 (1944), 184—222, and J. GUEY, Un document sur Septime-Sévère en Égypte (Papyrus Columbia 123), REA 61 (1959), 138. This fantasy of a Severan attack on Aden may be dismissed together with the third-century date of the 'Periplus'.

[913] This motive is generally the one suggested; e. g. see E. KORNEMANN, Janus 1 (1921), 61—63; W. SCHUR, Die Orientpolitik des Kaisers Nero, 48; H. KORTENBEUTEL, Süd- u. Osthan-

del, 55; M. P. Charlesworth, in: Johnson Studies, 138; J. Thorley, G & R 16 (1969), 210—212.

[914] So K. Wellesley, PP 9 (1954), 401—405; cf. Pliny, NH VI.160 speaking of Southern Arabia states: *Romana arma solus in eam terram adhuc intulit Aelius Gallus ex equestri ordine; nam C. Caesar Augusti filius prospexit tantum Arabiam.* Cf. also A. Dihle, Umstrittene Daten, 22—24, 82—83.

[915] This, for example, is assumed by W. Schur, Die Orientpolitik des Kaisers Nero, 46—49, and E. Kornemann, Die historischen Nachrichten des Periplus maris Erythraei über Arabien: Ein Beitrag zur neronischen Orientpolitik, Janus 1 (1921), 61—63. Kornemann accepts Sprenger's statement that a building of Roman construction stood on the hills overlooking Aden. No such structure has been found in the subsequent archaeological surveys of the region, see below p. 923, n. 1111. See also below n. 964 for other theories regarding a Roman presence in the southern part of the Red Sea. It has also been argued that the famous passage of Tacitus, Ann. II.61.2 refers to the extension of Roman outposts to Southern Arabia, so E. Laube, Die Abfassungszeit von Tacitus Annalen, Diss. Berlin (1955) (non vidi); cf. summation and criticism of Laube's views in J. Beaujeu, Le *Mare Rubrum* de Tacite et le problème de la chronologie des 'Annales', REL 38 (1960), 213—215, 220—222.

[916] E. Kornemann, Janus 1 (1921), 65—70; W. Schur, Die Orientpolitik des Kaisers Nero, passim; Idem, Zur neronischen Orientpolitik, Klio 20 (1967), 215—222; cf. E. H. Warmington, Commerce^2, 84—85. Also on Nero and the East see M. P. Charlesworth, Nero: Some Aspects, JRS 40 (1950), 71—75; E. M. Sanford, Nero and the East, HSCPh 48 (1937), 87—98.

[917] Pliny, NH VI.181—186; Seneca, QN VI.8.3; cf. E. Kornemann, Janus 1 (1921), 65—70, who argues that an expedition against Axum was intended; similarly, W. Schur, Die Orientpolitik des Kaisers Nero, 40—45, 60—61; so also L. P. Kirwan, GJ 123.1 (1957), 17. Cf. T. Kraus, MDAI(K) 25 (1969), 52—53 who argues that the accounts of Pliny and Seneca are so different that two expeditions may be referred to. See also on this expedition, R. K. Sherk, Roman Geographical Exploration and Military Maps, ANRW II.1 (1974), 540—541. Cf. now K.-H. Priese, Zur Ortsliste der römischen Meroe-Expedition unter Nero, Meroitica 1 (1973), 123—126. For the potential of a route via Meroe through Axum see L. P. Kirwan, An Ethiopian-Sudanese Frontier Zone in Ancient History, GJ 138.4 (1972), 457. There is almost no archaeological evidence for the use of such a route in Antiquity; cf. the find of Meroitic bronze bowls at Axum, P. L. Shinnie, Meroe (New York/ Washington 1967), 98; for the find of an Axumite coin at Meroe see P. L. Shinnie, Excavations at Meroe, Meroitic Newsletter 5 (1970), 17—19. Cf. on geographical confusions in the accounts of the routes used by the expedition J. Beaujeu, REL 38 (1960), 218—220. The southern extent of the Meroitic kingdom is unknown. The cemetery at Sennar has yielded a considerable number of Meroitic antiquities; see F. Addison, Antiquities at Sennar, SNR 18 (1935), 388—392 and republication in D. M. Dixon, Kush 11 (1963), 227—234, pls. XLVIII—LIII. A sphinx of Meroitic manufacture was discovered near Khartoum, J.Vercoutter, Le sphinx d'Aspelta de Deteia, BEIFAO 32 (1961), 97—104; F. Addison, Second Thoughts on Jebel Moya, Kush 4 (1956), 4—18; A. J. Arkell, A History of the Sudan^2, 136—137; cf. J. Vercoutter, Syria 39 (1962), 265 n. 2. See in general, A. J. Arkell, Archaeology South of Khartoum, in: R. A. Hamilton (ed.), History and Archaeology in Africa (London 1955), 71 and P. L. Shinnie, Meroe, 97. For possible Meroitic commercial contacts with the eastern Sudan in the direction of Ennedi and Lake Chad see P. Huard, Introduction et diffusion du fer au Tchad, JAH 7.3 (1966), 391—393 (but see below p. 1022, n. 1535). For pottery similar to the C group of the Sudan excavated at Maledinga in Chad see P. Huard and Cne. Bacque, Matériaux pour l'étude de l'Age du Fer au Djourab, BIFAN 25 ser. B (1963), 448—449. The southern extent of Meroitic territory is considerably enlarged if one follows the argument of R. O. Hayes, The Distribution of Meroitic Archer's Rings: An Outline of Political Borders, Meroitica 1 (1973), 118—121 that the spatial distribution of Meroitic archer's rings provides an indica-

tion of actual land controlled by Meroe. Such rings have been reported from Khartoum, Jebel Ruheit, Gebaga Managil, Soba, Bashagra Charib, Abu Geili and Saqadi on the Blue Nile and at Abu Sofyan, Jebel Haraza, Jebel Omori and Se Fasher in the desert west of the White Nile. The basic hypothesis, that these artifacts indicate actual political control, seems to me to be without merit.

[918] Pliny, NH VI.181: *Haec sunt prodita usque Meroen ex quibus hoc tempore nullum prope utroque latere exstat; certe solitudines nuper renuntiavere principi Neroni missi ab eo milites praetoriani cum tribuno . . . .*

[919] The above description of the first century of our era in Lower Nubia was long accepted and the blame for the decline was fixed on the invasions of Gaius Petronius (above n. 897). So A. J. Arkell, A History of the Sudan^{2}, 138, 170; cf. D. Dunham, Outline of the Ancient History of the Sudan, SNR 28 (1947), 4 who argues on the basis of the North Cemetery at Meroe that Meroitic prosperity came to an end by c. A.D. 15. More recently the availability of increasing amounts of archaeological material have led some to suggest that the first and second centuries actually saw the flowering of Meroitic culture in Lower Nubia; see B. G. Haycock, The Later Phases of Meroitic Civilization, JEA 53 (1967), 107—120. For a general survey see W. Y. Adams, Continuity and Change in Nubian Cultural History, SNR 48 (1967), 10—12 who notes that Lower Nubia was reoccupied after a hiatus of as much as a millennium in the first century B. C. or in the early Roman period.

[920] Such motivation is suggested by E. H. Warmington, Commerce^{2}, 33—34, 84—85, who argues that ever since Pompey Rome had been trying to gain control of the 'Caspian Route' to India. So also M. P. Charlesworth, Trade Routes, 103—106, and M. Pani, Roma e i re d'Oriente da Augusto a Tiberio (Bari 1972), 157—158.

[921] For Corbulo's campaigns see M. Hammond, Corbulo and Nero's Eastern Policy, HSCP 45 (1934), 89—95, 99—101; K.-H. Ziegler, Die Beziehungen zwischen Rom und dem Partherreich, 67—77; and K. Gilmartin, Corbulo's Campaigns in the East, Historia 22.4 (1973), 583—626, who analyses in detail Tacitus' account of these campaigns.

[922] For the policies of Augustus see above p. 647 and n. 895.
Two interesting inscriptions shed some light on Flavian policy in this part of the world. A Greek inscription of A.D. 75 (OGIS 379 = IGR III.133 = ILS 8795, see text above n. 763) records that Roman money and/or troops were used in that year to build fortifications at Mtskheta for Mithradates, king of Iberia. In 1948 a short Latin inscription of the centurion L. Iulius Maximus of the *legio XII Fulminata* was found at Beiuk Dash near Baku, see Z. I. Iampol′skii, Vnov′ otkrytaia latinskay nadpis′i gory Beiuk-Dash (Azerbaidzhanskaia SSR), VDI (1950), 1.177—182 = AE (1951), 263 (A.D. 84—96); L. Moretti, Due note epigrafiche, Athenaeum n. s. 33 (1955), 43 and the fullest treatment in F. Grosso, Aspetti della politica orientale di Domiziano, Epigraphica 16 (1954), 117—179; and more remotely, Idem, Epigraphica 17 (1955), 33—78 who notes that the inscriptions indicate that the Albani and Iberians had become Roman client kingdoms in the Flavian period. The famous bilingual inscription from Armazi which mentions a Publicius Agrippa *bitaxš* also suggests that individual high ranking Iberians had close ties to Rome; for the text of this inscription see above n. 763; see also H. Donner and W. Röllig, Kanaanäische und Aramäische Inschriften (Wiesbaden 1964), 328—330 no. 276. For the probable hereditary nature of the office of *bitaxš* in several families in Iberia, see M.-L. Chaumont, États vassaux dans l'Empire des premiers Sassanides, AcIr 2 ser. 1 (1975), 107—108; for the client status of Iberian kings and the increasing influence of Zoroastrianism at the Iberian court during the Roman period see M.-L. Chaumont, Conquêtes Sassanides et propagande Mazdéenne, Historia 22.4 (1973), 701—707.

[923] Commercial motivation suggested by M. Rostovtzeff, APF 4 (1907/08), 308—309; H. Kortenbeutel, Süd- u. Osthandel, 65; J. Schwartz, Annales (ESC) (1960), 20; C. Rathjens, Kulturelle Einflüsse in Südwest-Arabien von den ältesten Zeiten bis zum Islam, unter besonderer Berücksichtigung des Hellenismus, JFK 1 (1950/51), 29—30. For the

presence of oriental goods at Bostra see the letter written from there by Apollinarius to Tasoucharion (Feb. 19/20, A.D. 107) in P. Mich. VIII.465.21—22: ὧδε γὰρ ἱμάτια καλὰ καὶ ξ̣β̣[ε]ν̣ος καὶ πινάρια καὶ μύρα ἀγ̣[άγετα]ι̣ [εὔ]πορος. The reference earlier in the letter to Tyrian wares presumably indicates that these were available at Bostra as well: ἠθέλησα ὑμῖν πέμψαι θαλλὸν ἐκ τῶν Τυρίων (11.17—19); cf. also Aphrodas τοῦ ἀρτυματοπώλο̣[υ] in P. Mich. VIII.466. The situation is not unusual. Athenodorus, who visited Petra in the early years of Augustus, reported that many Romans were resident there: FGrHist no. 746. F5. One is reminded of the large numbers of Italian *negotiatores* at Cirta: Sallust, Jug. 21.2, 26.1—3.

[924] On the annexation see G. W. BOWERSOCK, A Report on Arabia Provincia, JRS 61 (1971), 228; IDEM, The Annexation and Initial Garrison of Arabia, ZPE 5.1 (1970), 37—39. An extract from the *acta* of the city of Petra among the papyri from the Cave of the Letters sheds some light on the location of the first capital: ἀπὸ ἄκτων βουλῆς Πετραίων τῆς μητροπόλεως. See H. J. POLOTSKY, IEJ 12.3/4 (1962), 260 (the dated documents in the find range from A. D. 110—132). For the establishment of a mint in Arabia, possibly at Bostra, by A. D. 112 see W. E. METCALF, The Tell Kalak Hoard and Trajan's Arabian Mint, ANSMN 20 (1975), 91—108, who uses the hoard evidence and the overstrikes in the Mampsis hoard to demonstrate convincingly that a number of issues previously assigned to the mint at Caesarea in fact were struck in Arabia. On this hoard see A. NEGEV, The Mampsis (Kurnab) Hoard of Roman and Provincial Silver. A Preliminary Note, INJ 3 (1965/66) 27—31. Since the publication of BOWERSOCK's survey several further inscriptions have been edited which bear on the early history of the province. A Greek inscription from Bostra mentions Q. Coredius Gallus Gargillius Antiquus not previously attested as governor, see M. SARTRE, Inscriptions inédites de l'Arabie romaine, Syria 50 (1973), 223—228, no. 1 who dates his term of office to c. 117—120.

[925] So, for example, A. MARICQ, Classica et Orientalia: La province d'«Assyrie» créée par Trajan. A propos de la guerre parthique de Trajan, Syria 36 (1959), 254—263; A. S. NODELMAN, Berytus 13.2 (1960), 109, 111 (adds Hadrian!); W. ENSSLIN, PhW 50 (4 Jan. 1930), 12—13. J. GUEY, Essai sur la guerre parthique de Trajan (114—117), Bibliothèque d'Istros 3 (Bucarest 1937), 20—26, 139; IDEM, Review of F. A. LEPPER, Trajan's Parthian War . . ., REA 54 (1952), 389—391; A. PIGANIOL, Review of F. A. LEPPER, Trajan's Parthian War . . ., RH 204.2 (1950), 280; R. ETIENNE, Annales (ESC) 7.3 (1952), 373. So most recently and emphatically E. J. KEALL, Parthian Nippur and Vologases' Southern Strategy: A Hypothesis, JAOS 95.4 (1975), 627—628.

The campaigns of Trajan and the related chronological and source problems have called forth a number of important studies: R. P. LONGDEN, Notes on the Parthian Campaign of Trajan, JRS 21 (1931), 1—35; J. GUEY, Essai sur la guerre parthique de Trajan (Bucarest 1937); F. A. LEPPER, Trajan's Parthian War (Oxford 1948). The question of premeditation still remains unresolved. It was originally argued on the basis of Pliny, Ep. X that Trajan was planning a Parthian war as early as A. D. 111, so O. CUNTZ, Zum Briefwechsel des Plinius mit Traian, Hermes 61 (1926), 194—195. This has rightly been rejected by most subsequent students of the campaign: R. P. LONGDEN, JRS 21 (1931), 19—23; F. A. LEPPER, Trajan's Parthian War, 164—190; A. N. SHERWIN WHITE, The Letters of Pliny, 648—649. A stronger basis for this may be found in the numismatic evidence. So first A. R. BELLINGER, Review of F. A. LEPPER, Trajan's Parthian War . . ., AJPh 71 (1950), 315—316, who notes greatly increased mint activity at Caesarea as early as Nerva. See also now W. E. METCALF, ANSNM 20 (1975), 99—102, who notes that the issues of the Bostra mint begin in 112 and end with the conclusion of Trajan's Parthian campaign. Trajan set out for Syria personally in A.D. 113 (Dio LXVIII.17). MITFORD has argued for a visit to Cyprus in A.D. 113 before the campaign began on the basis of Inscr. Kourion no. 111 but this has been scathingly rejected by R. S. BAGNALL and T. DREW-BEAR, Notes on the History of Kourion, CE 41 (1974), 190—192.

For the problem of the abandonment of Mesopotamia see M. ROSTOVTZEFF, L'Empereur Trajan et Doura, CRAI (1935), 289—290, who argued that Dura was abandoned to the Parthians already in early A. D. 117 by Trajan and that the withdrawal to the Euphrates

frontier was begun at this time; cf. criticisms of E. Groag, Zu einer Inschrift aus Dura, Klio 29 (1936), 232—236, and A. Degrassi, Fu Traiano a rinunciare alla Mesopotamia?, RFIC 14 (1936), 410—411, answered by M. Rostovtzeff, Kaiser Trajan und Dura, Klio 31 (1938), 285—292. But R.'s view is almost unanimously rejected: A. Merlin, Quelques remarques sur la carrière de L. Catilius Severus, légat de Syrie, in: Mélanges syriens offerts à R. Dussaud 1.225; A. Garzetti, From Tiberius to the Antonines, 372.
On the Roman withdrawal and Roman popular opinion see P. Jal, Nature et signification politique de l'oeuvre de Florus, REL 43 (1965), 377—380. In general on the frontier policy of Hadrian see the speculative comments of E. Birley, Hadrianic Frontier Policy, in: Carnuntina (Graz 1956), 25—33.

[926] So R. P. Longden, JRS 21 (1931), 23—27; F. A. Lepper, Trajan's Parthian War, 205—206; M. Amit, Les moyens de communication et la défense de l'Empire Romain, PP 102 (1965), 212—214; C. Toumanoff, Caucasia and Byzantium, Traditio 27 (1971), 113—114. For Roman motivation in conquering Northern Mesopotamia see E. W. Gray, The Roman Eastern Limes from Constantine to Justinian — Perspectives and Problems, PACA 12 (1973), 34—35.
In the absence of epigraphic or literary evidence for the extent of Parthian interest in Armenia, Iberia and the eastern Pontic region we are compelled to rely on such imprecise indications as artistic evidence and the pattern of circulation of coinage. Ivory rhytons similar to those from Nisa and usually considered to be of Parthian workmanship have been found at Olbia, see V. G. Lukonin, Persia II, Archaeologia Mundi (New York 1967), pls. 2—4; also a rhyton from Karagodeuashkh in V. D. Blavatskii, Stsena investitury na karagodeuashkhskom ritone, SA (1974), 1.38—44. In Armenia Roman provincial coinage circulated together with Seleucid, Artaxiad and Parthian coins: see P. Z. Bedoukian, Five Hoards Containing Coins of the Artaxiads of Armenia, REArmén 5 (1968), 421—433 and Kh. A. Mushegian, Monetnye Klady Armenii (Erevan 1973), 124—174 (text in Armenian, page references given are to the long Russian summary) who publishes 373 silver coins recovered from a find at Sarnakunk in 1945, including 225 Roman Republican and Triumviral coins (latest 32/31 B.C.), 58 Seleucid coins and 22 Parthian issues. In Colchis Parthian coins in small numbers also circulated along side Bosporan and Roman issues; e. g. finds at Dido-Lalo, Bori, Ilemi and Kldeeti, see K. V. Golenko, Denezhnoe obrashchenie Kolkhidy v rimskoe vremia (Leningrad 1964), 87—89 nos. 83—88a. In Iberia and eastern Armenia Parthian coins are far more numerous and the most popular types were imitated and remained in circulation for centuries (see below n. 1586). A list of such finds together with a hoard of 110 Parthian coins found in 1960 at Ali-Bairamli was published recently by K.V.Golenko and A.M.Radzhabli, Ali-Bairamlinskii klad i nekotorye voprosy obrashcheniia Parfianskikh monet v Zakavkaz'e, VDI (1975), 2.71—93; cf. also the catalogue of Parthian coins in the Georgia museum published by T. Ia. Abramishvili, Katalog parfianskikh monet Gosudarstvennogo museia Gruzii (Tbilisi 1974), 109—141 (Russian rés.). Apart from the route from Ecbatana via the Caspian suggested by Golenko and Radzhabli some coins may have come from across the Caspian Sea. For the circulation of Parthian coins along the communication route which ran from the Merv oasis north of the Kopet Dag to the Caspian, see the hoard of 50 drachms and tetradrachms found at Garry-Kiariz, V. N. Pilipko, Klad parfianskikh monet iz Garry-Kiariza (Parfiena), VDI (1967), 2.114—121.

[927] See most recently M. I. Finley, The Ancient Economy, 150—176. Even at the local level the Roman government appears to have made little effort to intervene in or regulate the structure and activities of village markets, cf. the study of *panegyreis* and *nundianae* by R. MacMullen, Market Days in the Roman Empire, Phoenix 24.4 (1970), 333—341.

[928] So C. G. Starr, The Roman Imperial Navy (Ithaca 1941), 12.

[929] The evidence for the date of fortification of Palmyra is discussed above n. 540. For the epigraphic evidence for the Roman garrison see H. Seyrig, Antiquités syriennes 12: Textes relatifs à la garnison romaine de Palmyre, Syria 14 (1933), 158—168; Idem, Syria 22 (1941), 236—242 nos. 6—12. Although all of the texts are from the second century

Seyrig suggests that a Roman garrison was present already in the first century, so H. Seyrig, Syria 22 (1941), 168. The dated epigraphic texts from the town and the known military necropolis do not go back before A.D. 167. The first known unit is the *ala Thracum Herculiana.*

[930] See the evidence summarized above n. 790.

[931] See the Palmyrene unit stationed at Coptos, IGR I.1169 = OGIS 639: οὐηξιλλάριος Ἀδριανῶν Παλμ[υ]ρη(ν)ῶν Ἀντωνινιανῶν τοξοτῶν. See in general J. Schwartz, BSRAA 40 (1953), 69—81 on the possible co-operation of such troops with the Palmyrene invaders of Egypt during Aurelian's reign (see above n. 821). The epigraphic evidence for the three Palmyrene units stationed in Dacia is collected in N. Gostar, Populatia palmyreniana din Tibiscum in lumina monumentelar epigrafice, Arheologia Moldovei (1964), nos. 2/3. 299—309; cf. German résumé in: BCO 12.3 (1967), 147—148. See also D. Tudor, Les Syriens en Dacie inférieure, AAAS 21 (1971), 71—80; S. Sonie, Inscriptio bilinguis tibicensis: A Pars palmyrena, Dacia 14 (1971), 405—412 and Idem, L'onomastique orientale de la Dacie romaine, ibid, 233—246. — For the Palmyrene archers stationed at El-Kantara in Numidia, see CIS II.3908, 3908bis; J.-B. Chabot, Nouvelle inscription palmyrénienne d'Afrique, CRAI (1932), 265—269; J. M. Lassere, REA 67 (1965), 353—367 and cf. M. Janon, Cultores dei Ierhobolis iuniores, BAA 2 (1966/67), 219—230 on the cults introduced by the Palmyrene archers. — The most well-attested of all Palmyrene units in the Roman army was the *cohors XX Palmyrenorum* which is frequently mentioned in both papyri and inscriptions from Dura: see F. Cumont, Fouilles de Doura Europos (1922—1923), 113, 358 no. 3; for the records of this unit see P. Dura 54—124, 130, 133—139, 142—146 with the commentary in ibid, pp. 24—46; these documents were republished by Fink, in: Rom.Mil.Rec., cf. R. W. Davies, Some Notes on Military Papyri from Dura, BASP 5.1 (1968), 31—34. For Palmyrene officers in Roman auxillary units see H. Seyrig, Syria 22 (1941), 228—230 and possibly Inv. IX.22.

In general on the Palmyrene *numeri* see G. L. Cheesman, The Auxilia of the Roman Imperial Army (Oxford 1914), 86, 88 who notes that like other units of Syrian archers, such as the *cohors I Hemesenorum*, the Palmyrene *numeri* continued to draw fresh recruits from their homeland regardless of where they were stationed; see now H. Callies, Die fremden Truppen im römischen Heer des Prinzipats und die sogenannten nationalen *numeri*. Beiträge zur Geschichte des römischen Heeres, BRGK 45 (1964), 182, 185—187, 191—192, 197—201, 205—209, 213, 226.

[932] A milestone erected by M. Ulpius Traianus in A.D. 75 has been found at Arak on the road from Palmyra to the Euphrates. This is the earliest evidence for a Roman road to the Euphrates. First published by R. P. Mouterde, La Strata Diocletiana et ses bornes milliaires, MUSJ 15 (1930), 232—233; cf. republication in: H. Seyrig, Syria 13 (1932), 276—277, no. 2 = AE (1933), no. 205; cf. G. W. Bowersock, JRS 63 (1973), 133, 136.

[933] The date of the construction of the various outposts of the Syrian *limes* is still a matter of some controversy. An early collection of the evidence is found in a now antiquated work, V. Chapot, La frontière de l'Euphrate de Pompée à la conquête arabe (Paris 1907). See A. Poidebard, La trace de Rome dans le désert de Syrie (Paris 1934), passim; M. A. Stein, Un récente exploration en Transjordanie, CRAI (1939), 262—268; Idem, Surveys on the Roman Frontier in Iraq and Trans-Jordan, GJ 95 (1940), 428—438. For the fortifications on the route from Ctesiphon to Nisibis and Singara especially in the area about Hatra see M. A. Stein, The Ancient Trade Route past Hatra and its Roman Posts, JRAS (1941), 299—316, map p. 301, who argues (p. 307) that their purpose was the protection of commerce. For the Roman garrison at Palmyra see above n. 583.

Of considerable interest is Stein's discovery of a Roman *castellum* and a large barrage at Qaṣr Khubbaz only 40 miles from Hit, see M. A. Stein, GJ 95 (1940), 430. For the caravan route from Palmyra to Hit which must have passed close to this fort see R. Mouterde and A. Poidebard, La voie antique des caravanes entre Palmyre et Hit au IIe siècle ap. J.-C., Syria 12 (1931), 101—115, based on aerial photographs; cf. M. A. Stein, op. cit., 431—432 for a ground survey of the posts on this route.

[934] In times of war special measures were taken, cf. AE (1911), no. 161, the *cursus honorum* of Aburnius Torquatus from Alabanda, who in Trajan's Parthian war held the post of ἐπιμελητὴς εὐθηνίας ἐν τῷ πολέμῳ τῷ Παρθικῷ τῆς ὄχθης τοῦ Εὐφράτου; see comments of A. von Premerstein, Die Offizierslaufbahn eines kleinasiatischen Ritters, JÖAI 13 (1910), 200—209; for further bibliography see J. F. Gilliam, TAPhA 72 (1941), 166 n. 41. A *praefectus ripae fluminis Euphratis* is known in an inscription from Vasione, CIL XII. 1.357 = ILS 2709. The text is undated but the man's *cursus* includes a tribunate in the *legio XXI Rapax* which did not exist after Domitian, see J. F. Gilliam, TAPhA 73 (1941), 166 n. 41. The title seems to imply some sort of protection of the Euphrates frontier. Presumably the office was held in peacetime, cf. a centurion's inscription from Palmyra: *curatori / [ripae sup]er et inferior* . . . published in H. Seyrig, Syria 22 (1941), 237—240 no. 1.

[935] The geographical outlines of Rome's eastern *limes* have been traced on the basis of aerial photographs, primarily by Poidebard and Stein (the latter's results remain unpublished) and by ground surveys by Stein (see note above). The process of the fortification of the Syrian frontier was a gradual one. The earliest steps may have been taken already in the Julio-Claudian period, if we may indeed assign the earliest fortifications at Palmyra to this time (see above n. 540). The Flavian period, particularly the reign of Vespasian, increasingly appears to have been the first era of systematic construction of a road network and of fortifications, see F. Grosso, M. Ulpio Traiano, governatore di Siria, RIL 91 (1957), 318—342; G. W. Bowersock, JRS 63 (1973), 133—140; E. W. Gray, PACA 12 (1973), 27; T. B. Mitford, Some Inscriptions from the Cappadocian Limes, JRS 64 (1974), 160, 166, 172—173.

The presently visible fortifications in the eastern deserts of Syria have been largely assigned to Diocletian by A. Poidebard, La trace de Rome dans le désert de Syrie, 199—200. See also D. van Berchem, L'armée de Dioclétien et la réforme constantinienne (Paris 1952), 3—30. Although excavation could solve some of the chronological problems, little has been done to date: a fort on the west bank of the Euphrates was excavated at Pagnik Oreni and yielded two coins, one third century, the other late fourth, see R. P. Harper, Excavation in 1968 at Pagnik Oreni, AS 19 (1969), 4 (but an inscription from c. 80—88 attests to the building activities of A. Caesennius Gallus in the area, see R. P. Harper, AnSt 22 [1972], 27; cf. T. B. Mitford, JRS 64 [1974], 172—173); the *castellum* at Tell Brak in Mesopotamia was excavated by Poidebard and was judged to be from the time of Justinian, see A. Poidebard, La trace de Rome, 144—146; cf. M. E. L. Mallowan, Excavations at Brak and Chagar Bazar, Iraq 9 (1947), 49, pl. LVI. A small stone *castellum* at Eski-Hissar has been dated on architectural grounds to c. A.D. 200, see S. Guyer, Eski-Hissar, ein römisches Lagerkastell im Gebiet von Edessa, in: Mélanges syriens offerts à R. Dussaud, 1.183—190. An early third century *castellum* and an extensive adjoining barracks complex has been excavated at Ain Sinu in Iraq, see D. and J. Oates, Ain Sinu: A Roman Frontier Post in Northern Iraq, Iraq 21.2 (1959), 207—242.

[936] See the graffiti of Roman soldiers on the road from Bostra to Ḥegra. Four texts were published by Jaussen and Savignac, Mission archéologique en Arabe, 2. El-'Ela, D'Hégra à Teima, Harrah de Tebouk (Paris 1914), pp. 647—649 nos. 14—17 from the region southeast of Jebel Etlibi. For 16 further graffiti (Greek and Nabataean) from a site between Ḥegra and El-'Ela see H. Seyrig, Antiquités syriennes 37: Postes romains sur la route de Médine, Syria 22 (1941), 218—223. The only unit mentioned is the *ala Gaetulorum*. The names in the graffiti suggest a date in the second century after the annexation of the province. Ten further Greek graffiti have been found at Qebour el-Gindy, between Medain and El-'Ela, see Jaussen and Savignac, op. cit., pp. 644—647 nos. 4—13; several of these, nos, 4, 6 and 10, mention *dromedarii*. The *cohors XX Palmyrenorum* stationed at Dura Europos also had at least 36 *dromedarii*, see P. Dura 61, 88, 91, 100, 101, 102 and 66, cf. R. W. Davies, BASP 5.1 (1968), 33—34 who finds in the last document a reference to the supply of remounts. The ostraca from Bu Njem indicate that camel-mounted troops patrolled the desert here also (described in the ostraca as *ad* or *cum camellos[-is]*), see R. Rebuffat and R. Marichal, Les ostraca de Bu Njem, REL 51 (1973), 285.

[937] Suggested by C. Préaux, Phoibos 5 (1950/51), 133—137. The many thousands of Thamudic graffiti found all over Central Arabia have been attributed to the nomadic and semi-nomadic Bedouins of the early centuries of the Christian era, see J. Ryckmans, Aspects nouveaux du problème thamoudéen, Studia Islamica 5 (1956), 5—17, who also suggests that the authors of the inscriptions played no role in the caravan trade (i. e. the camels in their graffiti are usually drawn without a load). But merchants are occasionally mentioned in the texts: e. g. Hu 432 = Eut. 624; cf. E. Littmann, Zur Entzifferung der thamudenischen Inschriften (Berlin 1904), 9 and A. van der Branden, Les textes thamoudéens de Huber et d'Euting, Le Muséon 69 (1956), 129 (from Laqat), cf. A. Jamme, RSO 45.1/2 (1970), 100—101 on Ja T 11a.

The Sinaitic, Safaitic and Thamudic inscriptions both within and outside the frontiers of the Roman province indicate that the Bedouin tribes fought frequently among themselves and occasionally against the Romans. For an example of such a Bedouin raid in Arabia see J. Euting, Sinaitische Inschriften (Berlin 1891), no. 463, the inscription describes the 85th year of the Bostra era (A.D. 190) as the year in which "the Arabs (Bedouins) ravaged the land". Of particular interest are the Safaitic graffiti from El-Ḥifneh, a watering-hole in the Wadi ish-Sham (between the Ḥauran mountains and en-Nemarah). Several allude to escapes from Roman patrols: Littmann, Safaitic Inscriptions, nos. 87, 94 (dated in year 3 of the Bostra era, A.D. 108), 157; cf. 406, 424 (from El-Isawi), 640 (Kabr Nasir), 675, 709; cf. nos. 644 and 653 which refer to fines levied by Rome against a tribe and the arrest of some of its members. The references to raids, tribal warfare and vendettas are also numerous and the Roman army would no doubt have attempted to keep some sort of check on such unruly and potentially dangerous elements: Littmann, Safaitic Inscriptions, nos. 90, 146, 160, 179, 180, 184, 210, 233, 243, 255 (mentions a war between the tribes *[Ḳum]air* and *Ḥumaiy*), 259, 305, 306, 395, 469, 518, 579, 590, 597, 606, 618, 648, 660, 669, 679, 698, 742 and 751; Oxtoby, Inscriptions of the Safaitic Bedouin, nos. 10. 95, 119, 365a, 438 (from the Wadi Miqat). One indication of the type of movement which the Romans had to contend with comes from a dated (A.D. 98?) Aramaic inscription from Wadi Hauran which records the temporary presence of members of the tribe of Maškana from Taima in the Wadi Hauran, see F. Safar, Sumer 20 (1964), 16—17, no. 5.

A parallel situation of a geographically undelimited desert frontier facing a nomad people also occurs in North Africa. For the Garamantes see E. Demougeot, Annales (ESC) 15.2 (1960), 215—218 (graffiti depicting armed camel-mounted warriors; formerly dated much later, see E. F. Gautier, Rapport sur une mission au Sahara, CRAI [1935], 311). For the use of the camel in the Fezzan during the Roman period see O. Brogan, The Camel in Roman Tripolitania, PBSR 22 (1954), 126—131. Clashes with Roman troops occurred: e. g. Tacitus Ann. III.74 and Hist. IV.50 (Tacitus describes the Garamantes thus: *gentem indomitam et inter accolas latrociniis fecundam*). The pattern is similar to that on the various eastern frontiers: the deep penetration of Roman troops and outposts, both temporary and permanent, as well as Roman influence, see R. G. Goodchild, Oasis Forts of *legio III Augusta* on the Routes to the Fezzan, PBSR 22 (1954), 57—68 (posts at Bu Njem, Gheria el-Garbia and Ghadames); E. Demougeot, op. cit., 226—233, 238—240. For the expeditions of Septimius Flaccus and Julius Maternus (Ptolemy I.8.4 cf. I.9.6 and IV.8.2) south of the Fezzan see E. W. Bovill, The Camel of the Garamantes, Antiquity 30 (1956), 19—20; cf. J. Desanges, Note sur la datation de l'expédition de Julius Maternus au pays Agisymba, Latomus 23.4 (1964), 713—725 who argues that Septimius Flaccus is identical with Suellius Flaccus (IRT no. 854 from A.D. 87) and that his expedition occurred c. A.D. 85—87 and that of Maternus in A.D. 92. Roman pottery and glass has been found in excavations at Germa together with a remarkably Roman-looking mausoleum, see R. G. Goodchild, PBSR 22 (1954), 56—57. For excavations at the nearby site of Zinchera see C. Daniels, The Garamantes of Fezzan: Excavations on Zinchera 1965—67, AntJ 50 (1970), 37—66. The finds included a rock-cut Greek inscription: ΑΟΥΡΕΛΙΟΥ *c(enturio)* = AE (1971), 486 and imported pottery. Among the ostraca found at Bu Njem at least one lists the detachment of soldiers *cum Garamantibus*, see R. Rebuffat and R. Marichal, REL 51 (1973), 285 (third century). The

Romans had earlier relied on their vassal, king Juba II, to control the nomadic tribes of southern Numidia and Mauretania in precisely the same fashion, see J. Desanges, Les territoires Gétules de Juba II, REA 66 (1964), 33—47. The famous tariff inscription of Zarai, CIL VIII 4508 = VIII Suppl. 18643, has also been explained as an effort to regulate the pastoral nomad population which lived on the edge of the Roman frontier, see J. P. Darmon, Note sur le Tarif de Zarai, CT 12 (1964), 9—21.

[938] Some units may have specialized in such guard duty. For example, the *ala Thracum Herculiana* is attested at Palmyra from A.D. 167 onward: ILS 8869 = H. Seyrig, Syria 14 (1933), 159 no. 2; ibid., 160 no. 3. In A.D. 142/145 the same unit was stationed in Upper Egypt: TAM III.52 = SEG VI.628. For evidence of troops guarding caravan routes in Arabia cf. a graffito from near El-ʿEla, H. Seyrig, Syria 22 (1941), 219 no. 9: μινσθῆ (sic) Δημήτρις Ζαννίων δρομ. Πιπ(ε)ρᾶς, who suggests that the name is derived from the spices guarded, ibid., 221. The name may, however, be no more than a coincidence. It occurs in regions other than those connected with the spice trade, e. g., . . . νος ὁ κ(αὶ) Πίπερας at Nicomedia, IGR III.7; cf. on this type of name L. Robert, Inscriptions de Didymes et de Milet, Hellenica 11/12 (1960), 487—489; Idem, Noms indigènes dans l'Asie Mineure gréco-romaine (Paris 1963), 81. Other evidence for the continued use of the overland routes is more difficult to find. Van der Branden in his discussion of the southern expansion of the Thamudic texts argues that they belong to an Arab tribal confederation of the late second or early third centuries of our era, which are primarily concerned with commerce; see A. van der Branden, Les textes thamoudéens de Philby 1. Inscriptions du Sud (Louvain 1956), p. 2; Idem, 2. Inscriptions du Nord (Louvain 1956), pp. vi—vii; cf. criticism of J. Ryckmans, BiOr 17.2/4 (1960), 200—201, and Idem, Studia Islamica 5 (1956), 5—17.
We should not, however, assert as positively as J. Pirenne does that by c. A.D. 200 all of the commerce between South Arabia and the Roman Empire was by sea; see J. Pirenne, in: M. Mollat (ed.), Sociétés, 111; so also J. Ryckmans, Le Muséon 70 (1957), 85—86. Our knowledge of the archaeological evidence from this region is so slight that new investigations may yet yield some surprises (cf. below p. 966, n. 1259).

[939] For the route from Coptos to Myos Hormos: J. Couyat-Barthoux, La route de Myos Hormos et les carrières de porphyre rouge, BIFAO 7 (1909), 20—25; Idem, Ports Gréco-romains de la Mer Rouge et grandes routes du désert arabique, CRAI (1910), 532; G. W. Murray, The Roman Roads and Stations in the Eastern Desert, JEA 11 (1925), 146—147 with map, pl. XX; C. H. O. Scaife, Two Inscriptions at Mons Porphyrites (Gebel Dokhan), Univ. of Eg. Bull. Fac. of Arts 3.2 (1935), 64—81; D. Meredith, The Roman Remains in the Eastern Desert of Egypt, JEA 38 (1952), 96—105. Coptos to Berenice: J. Couyat-Barthoux, CRAI (1910), 536—538; D. Meredith, JEA 39 (1953), 98—101. The road Apollinopolis Magna to Berenice was less used for commerce. On this route see J. Couyat-Barthoux, CRAI (1910), 538—540; G. W. Murray, JEA 11 (1925), 145. Of lesser importance are two other routes: Coptos to Philoteras: J. Couyat-Barthoux, CRAI (1910), 531—531; G. W. Murray, JEA 11 (1925), 146; D. Meredith, JEA 38 (1952), 105—107; Coptos to Leucos Limen: J. Couyat-Barthoux, CRAI (1910), 532—536; G. W. Murray, JEA 11 (1925), 145—146; D. Meredith, JEA 39 (1953), 96—98. This road through the Wadi Hammamat was extensively used in the Pharaonic period to reach both the Red Sea and the nearby gold mines. See the map of the road to the gold mines in the Turin papyrus of the period of Rameses II: G. Goyon, Le Papyrus de Turin dit 'des Mines d'Or' et le Wadi Hammamat, ASAE 43 (1949), 337—379 (maps on 363 and 378) who deals in detail with the relationship of the mines and sites mentioned in the papyrus to the remains of mines, temples and inscriptions found in the Wadi Hammamat as well as with the ore bodies which were apparently the object of pharaonic attention; see also M. H. Gauthier, Le temple de l'Ouadi Mīyah (El Kanaïs), BIFAO 17 (1919), 1—38. For inscriptions of Egyptian gold miners in Wadi Hammamat see J. Couyat and P. Montet, Les inscriptions hiéroglyphiques et hiératiques du Ouadi Hammamat (Cairo 1912), nos. 35, 87; G. Goyon, Nouvelles inscriptions rupestres du Wadi Hammamat (Paris 1957), no. 64. Another minor route may have run from Bir Semna past Bir Wasif to Wadi Safâga on the coast north of

Philoteras. This is the route followed by Fernand Bisson de la Roque in 1922: F. Bisson de la Roque, Voyage au Djebel Shaïb, BSRGE 11 (1922), 132—135, who reports a Greek graffito from Bir Wasif: Νικαγορας Κλεομενους Οασιος.

[940] Still fundamental on the Roman army in Egypt is J. Lesquier, L'Armée romaine d'Égypte à Dioclétian, MémIFAO 41 (Cairo 1918). There have, however, been a large number of new discoveries and many documents cited by Lesquier have been republished. There thus exists now no comprehensive work on the Roman army in Egypt. Recently two prosopographical lists were published: R. Cavenaile, Prosopographie de l'armée romaine d'Égypte d'Auguste à Dioclétian, Aegyptus 50 (1970), 213—320, and N. Criniti, Supplemento alla prosopografia dell'esercito romano d'Egitto da Augusto a Diocleziano, Aegyptus 53 (1973), 93—158. Although useful, neither list was complete when it appeared and the recent republication of earlier documents and of new texts has already outdated these prosopographies. Documents relating to the army have been collected in S. Daris, Documenti per la storia dell'esercito romano in Egitto (Milan 1964), and most recently in an excellent work by R. O. Fink, Roman Military Records on Papyrus (Cleveland 1971). Egypt was a province with little military activity (cf. P. A. Brunt, The Administrators of Egypt, JRS 65 [1975], 131—132 on the lack of military experience of the men appointed to the Prefecture of Egypt). The initial garrison of three legions (Strabo XVII.1.12) was already under Augustus reduced to the *legio III Cyrenaica* and *legio XXII Deiotariana* (cf. H. A. Saunders, The Origin of the Third Cyrenaic Legion, AJPh 62 [1941], 85). Each legion was commanded by an equestrian *praefectus legionis* (e. g. CIL IX.5748 = ILS 2687) and both were permanently garrisoned outside of Alexandria in an effort to intimidate its turbulent population (PSI XIII.1307 = CPL 108 = Rom. Mil. Rec. no. 51, refers to the posting of guards both day and night in Alexandria. For mid-first century date and probable identification of the legion involved see J. F. Gilliam, Notes on PSI 1307 and 1308, CPh 47 [1952], 30 and R. W. Davies, Minicius Iustus and a Roman Military Document from Egypt, Aegyptus 53 [1973], 75—92). Further information about the Egyptian garrison in the first century has also come in a new military diploma of A.D. 105 from Syria, H.-G. Pflaum, Un nouveau diplome militaire d'un soldat de l'armée d'Égypte, Syria 44 (1967), 339—358 = AE (1968), 513 (all of the units were previously attested in Egypt). Early in the second century the *legio II Traiana* (cf. CIL III.79) was moved into Egypt and eventually became the only legion in the province (for the movement of the *III Cyrenaica* see below n. 1458); cf. E. Ritterling, Zur Geschichte der *leg. II Traiana* unter Trajan, RhM N.F. 58 (1903), 476—480 who suggests on the basis of CIL III.151 that the new legion may in part have been constituted of men from the *III Cyrenaica*. For legionary cavalry in Egypt see the reference to ἱππεὺ[ς] λεγιωνᾶρις in a third century letter published by W. N. Bayless, Private Letter of Diogenes, BASP 10 (1973), 15—18 and to *equites legionis* in P. Mich. III.164 (A.D. 243/244); re-edited by J. F. Gilliam, The Appointment of Auxiliary Centurions (P. Mich. 164), TAPhA 88 (1957), 159—160 = Doc.Eser.Rom. no. 27, now Rom.Mil.Rec. no. 20 (cf. ad loc. p. 139 n. 2).

For graffiti left by soldiers and auxiliaries on the road from Coptos to Leucos Limen see Bernand, De Koptos à Kosseir, nos. 2 (centurion in *legio III Cyrenaica* at Lakeita — in Latin), 19 (*eques alae Vocontiorum* at El-Moueh), 43, 50, 52 (all from Wadi Hammamat). For Roman soldiers in the graffiti at El-Kanaïs see Bernand, Le Paneion d'El-Kanaïs, nos. 55, 56, 59 bis (*cohors I Lusitanorum*; cf. J. Lesquier, L'armée romaine, 92). Camel-mounted auxiliaries do not make their appearance in Egypt until the second century and later: SB III.6965 = Rom. Mil. Rec. no. 78.49 and SB III.6966 = Rom. Mil. Rec. no. 78. 48 (both from Pselkis); P. Mich. VII.455a = Rom. Mil. Rec. no. 52.b (the problem as to whether the unit in this document was in fact stationed in Egypt remains unresolved; cf. R. W. Davies, A Report of an attempted coup, Aegyptus 54 [1974], 187—191, 193—194); BGU II.696 = Rom. Mil. Rec. no. 64. The 'Notitia Dignitatum' mentions three *alae dromedariorum* stationed in the Thebaid (Or. XXXI.48,54,57). See also P. Oxy. I. 43 r.ii.1 (Feb. 295), which mentions deliveries to καμήλοις δεσποτικοῖς μεμενηκόσι ἐν Ἐλεφαντίνῃ; cf. comments of W. Ensslin, Zu Pap. Oxyrhynchus I 43 recto, Aegyptus 32 (1952), 168—169. For use of troops to build roads in the Eastern Desert, e. g. CIL III.6627 which records the work done on the road from Coptos to Myos Hormos. Further reference to the garrison at Coptos may also exist in a very fragmentary Latin papyrus of the first century, see D. F. S. Thomson, P. Jandana Inv. No. 209, in: Festschrift F. Oertel, 17—18. New texts relating to the Roman units stationed in Upper Egypt continue to appear; see, for example, two ostraca from Wadi Hammamat, the first a Latin fragment which mentions the *cohors I Apamenorum*: J. Schwartz, Deux ostraca de la région du wādi Hammamat, CE 31 (1956), 118—123 = CPL 310; it was originally published in G. Goyon, Nouvelles inscriptions rupestres du Wadi Hammamat, no. 132 (found in the ruins of the Roman *castrum* at Qasr el-Banat); for the second text see below n. 952. See further the two Latin and twelve Greek ostraca published by P. J. Sijpesteijn, ΤΑΛΑΝΤΑ 5 (1973), 72—84, some of which relate to the small garrison at Latopolis. For possible indications in ostracon no. 13 of the manner in which patrols were dispatched into the Eastern Desert see R. S. Bagnall, The Roman Garrison at Latopolis, BASP 12.4 (1975), 136—139. For nos. 9, 13 and 14 see J. F. Gilliam, Three Ostraca from Latopolis, BASP 13.2 (1976), 55—61; see also H. C. Youtie, Scriptiunculae 1.110—111 = O. Skeat 11 = SB VI.9118; cf. S. Daris, Su alcuni ostraca militari, Aegyptus 43 (1963), 267—268 who compares P. Mich III.203.

[941] Pliny, NH VI.102—103; cf. ILS 2483, which records the construction (repair ?) of various *hydreumata*: a list of soldiers followed by: *Per eosdem, qui supra scripti sunt, / lacci aedificati et dedicati sunt: Apollonos hydreuma VII k Ianuar., / Compasi k. Augustis, / Berenicide XVIII k. Ianuar., / Myoshormi idus Ianuar.; / castrum aedificaverunt et refecerunt.* Attributed to the reign of Augustus, but cf. D. Meredith, Inscriptions from the Berenice Road, CE 29 (1954), 287; Idem, Berenice Troglodytica, JEA 43 (1957), 57 identifies the two forts and the *hydreuma* at Wadi Kalālāt with the Berenice in the inscription. Cf. a Latin inscription of c. A.D. 84 which refers to work in connexion with the *hydreuma* of the Afrodito station on the Coptos-Berenice road: . . . *hoc / loco ḥydṛeuma* . . . *ịavit et cum esseṭ / in* . . . *ụṃ p̣ṛạẹsidiụm* . . . .*us. aedificari iussit / curam agente operis M. Trebonio Valente / Praef. Bernic.*, see D. Meredith, CE 29 (1954), 284—285. The text is taken from the Wilkinson Mss. and the photograph of W.'s transcription published in fig. 45 suggests some entirely different readings, e. g. line 3: *NUDOENẠ* instead of *ḤỴDṚEỤṂA*; cf. also the criticisms of T. Pekary, Untersuchungen zu den Römischen Reichsstraßen (Bonn 1968), 163—164 n. 335. The use of troops for this type of duty was unusual but is not entirely without precise parallel as P. A. Brunt, C. Fabricius Tuscus and an Augustan Dilectus, ZPE 13.2 (1974), 183 suggests. In general on the use of the army in large projects such as canals and aqueducts see R. MacMullen, Roman Imperial Building in the Provinces, HSCPh 64 (1959), 214—218. Such a *praesidium* was commanded by a *curator praesidii*, see O. Skeat 11 = Doc.Eser.Rom. no. 5, O. Florida 4, 5, 6, 7, 8, 9 (?), 11 and 12.

For the remains of some of the stations see in general G. W. Murray, JEA 11 (1925), 140—141 (about 69 altogether); ibid., pl. XII plan of Roman fort at Der el-'Aṭrash; D. Meredith, JEA 38 (1952), 99, fig. 3 Wadi Barud el-Aḥmar, 103, fig. 4 *hydreuma* in Wadi Ḳreyah; Idem, CE 31 (1956), 356—362: El-Heita and El-Ghazzā; C. H. O. Scaife, Two Inscriptions at Mons Porphyrites (Jebel Dokhan), Univ. of Eygpt. Bull. Fac. of Arts 3.2 (1935), 64—81: stations at El-Heita (pp. 64—67, plan I); El-Saqia (pp. 67—72, plan II); Bab el-Mukheinig (p. 27, plan III); Der el-'Aṭrash (pp. 72—77, plan IV); Qattar (pp. 77—78, plan V); and Badi (pp. 78—81, plan VI); Idem, Univ. of Egypt Bull. Fac. of Arts 2 (1934), 113—115: Bab el-Mukheinig; J. Couyat, CRAI (1910), 529: plan of the station at Abu Fennan; F. Bisson de la Roque, Voyage au Djebel Shaib, BSRGE 11 (1922), 115—116, fig. 1—2: fort and caravan station at El-Heita; El-Saqia (pp. 116—118, fig. 3); a Roman station at Bir Semna (pp. 133—135, fig. 9). C. H. O. Scaife, Further Notes on Myos Hormos and Tadnos Fons, Univ. of Egypt, Bull. Fac. of Arts, 4.1 (1936), 69—70: a station for watering animals at Bir Aras; L. A. Tregenza, Notes on a Recent Journey from Abu Zawal to the Greiya Station, Univ. of Egypt, Bull. Fac. of Arts, 11.1 (1949), 130—133, with a plan: a station with animal lines between Abu Zawal and Greiya; D. Meredith and L. A. Tregenza, Notes on Roman Roads and Stations in the Eastern Desert, Univ. of Egypt, Bull. Fac. of Arts, 11.1 (1949), 100—105: a Roman station with animal lines at Aras; El-Heita (pp. 105—109); El-Saqia (pp. 109—112); Abu Zawal with very extensive remains of animal lines (pp. 115—126, with three plans).

[942] The use of camels is relatively infrequent in Egypt except in the Eastern Desert and the Fayum. For a possible connection between the increased importance of the trade routes of the Eastern Desert and the advent of the large-scale use of camels, see R. W. Bulliet, The Camel and the Wheel (Cambridge, Mass. 1975), 116—118. Figurines of camels occur more frequently in the excavations at Coptos than elsewhere in Egypt, see A. J. Reinach, Rapport sur les fouilles de Koptos: deuxième campagne, janvier—février 1911, Bull. soc. fr. de fouilles arch. 3 (1912), 79; cf. the figurine of a laden one-humped camel from a first century B.C. tomb at Meroe, D. Dunham, Royal Tombs of Meroe and Barkal, 127, pl. XLIX. For the requisition of a camel to haul a porphyry pillar, see BGU III.762, and P. Lond. II.328 which also refers to a camel requisitioned for service in the caravans which travel from Berenice: εἰς κυριακὰς χρείας τῶν ἀπὸ Βερνείκης γεινο(μένων) πορ⟨ε⟩ιῶν.

[943] It is usually assumed that long-distance commerce in arid regions is the exclusive domain of the camel (cf. the evidence from Central Asia, above p. 790, n. 623). For the use of wagons in the Eastern Desert of Egypt see IGR I.1163 = OGIS 674.28—30: ἁμάξης ἐχού/σης τετράγωνον δραχμὰς τέσσαρες. Wagons were used to supply the mines on the Coptos-Leucos Limen route, see the phrase ἐὰν ἀναβῶσιν αἱ ἅμαξαι in O. Fawakhir 9.4—5, O. Guéraud, BIFAO 41 (1942), 163—164. For wagon tracks in the Eastern Desert see D. Meredith and L. A. Tregenza, Univ. of Egypt, Bull. Fac. of Arts, 11.1 (1949), 112—114 who describe ruts as much as 11 feet wide, most from the Bab el-Mukheinig pass coming from Mons Porphyrites. For wagons in the Palmyra tariff, see OGIS 629.16: Γόμος καρρικὸς παντὸς γένους· τεσσάρων γόμων καμηλικῶν τέλος ἐπράχθη, cf. J. G. Février, Essai, 60, n. 3.

The usual method of moving heavy stones in the ancient Near East was by ox-drawn sledge, see B. Brentjes, Zur ökonomischen Funktion des Rindes in den Kulturen des Alten Orients (II), Klio 55 (1973), 49—51; for the organization of stone transport in the Eastern Desert, see K. Fitzler, Steinbrüche und Bergwerke im ptolemaïschen und römischen Ägypten (Leipzig 1910), 131—133, 140—148 who suggests that camels were frequently used as draught animals to haul stone from the quarries; for the use of camels as draught animals by the Romans in North Africa see O. Brogan, The Camel in Roman Tripolitania, PBSR 22 (1954), 128—130; E. Demougeot, Le chameau et l'Afrique du Nord romaine, Annales (ESC) 15.2 (1960), pls. III.A, IV.B; R. W. Bulliet, The Camel and the Wheel, 139—140. A hypothetical reconstruction of the transport system from Mons Claudianus to the Nile is found in T. Kraus and J. Röder, Mons Claudianus, MDAI(K) 18 (1962), 115—116 who suggest that the draught animals used were oxen. The use of camels here is, however, attested in a number of papyri: in a camel return, P. Lond. II.328, mention is made of a camel requisitioned by order of the Prefect from its owner in the Fayum for hauling porphyry; so also BGU III.762. Cf. other requisitions of camels in P. Lond. II.479 (use not specified) and BGU I.266 (A.D. 215/216) where a camel is requisitioned for military service in Syria. In the fourth century donkeys were similarly requisitioned to carry corn to the mines and quarries; see P. Lips. 85 (A.D. 372) and P. Lips. 86 (A.D. 373) with F. Preisigke, Kornfrachten im Fayum, APF 3 (1906), 44—54 (who incorrectly cites the documents as P. Lips. 30 and 31).

The more usual form of transport in Egypt was the almost ubiquitous donkey, which tended to be more important than the camel even in the deserts of the Fayum. For associations of donkey drivers see for example O. Brüss. Berl. 49 (ὀνηλάτης ὁδοῦ Φιλῶν).

[944] For a general map showing the geology of the Eastern Desert, see G. Goyon, ASAE 43 (1949), 346; also K. Fitzler, Steinbrüche und Bergwerke, 4—5. But other quarries in Egypt were probably of almost equal importance: e. g. the red granite at Syene, Pliny NH XXXVI.63: *circa Syenen vero Thebaidis syenites, quem antea pyrrhopoecilon vocabant,* cf. C. Nylander, Bemerkungen zur Steinbruchgeschichte von Assuan, AA (1968—69), 6—10; J. Röder, Zur Steinbruchgeschichte des Rosengranits von Assuan, AA (1965), 467—552.

[945] Ptolemy, Geog. IV.5.12. For a description of the remains of the installations, see J. Couyat-Barthoux, BIFAO 7 (1909), 25—33; K. Fitzler, Steinbrüche und Bergwerke, 94—99; G. W. Murray, JEA 11 (1925), 147—148; D. Meredith, JEA 38 (1952), 98—101; Idem, Eastern Desert of Egypt: Notes on Inscriptions, 1, CE 28 (1953), 136—138 (quarry marks from Lycabettos quarries); C. H. O. Scaife, Univ. of Egypt Bull. Fac. of Arts 3.2 (1935), 58—63 has two inscriptions from the quarry. For the other major quarry complex (i. e. the Northwest Quarries) on Jebel Dokhan see D. Meredith and L. Tregenza, Mons Porphyrites: The North-West Village and Quarries, Univ. of Egypt, Bull. Fac. of Arts, 12.1 (1950), 131—147.

The most thorough and recent account is T. Kraus, J. Röder and W. Müller-Wiener, Mons Claudianus — Mons Porphyrites, MDAI(K) 22 (1967), 157—199. Porphyry was also quarried in other provinces of the Roman Empire, e. g. Pannonia; cf. D. Simonyi, Sull'origine del toponimo 'Quinque ecclesiae' di Pecs, AAntHung 8 (1960), 174—182. Also similar is *lapis Lacedaemonius*. On which see P. Warren, A Stone Vase-Maker's Workshop in the Palace at Knossos, ABSA 62 (1967), 199. For the quarries at Psephi north of Gythion see H. Waterhouse and R. H. Simpson, Prehistoric Laconia: Part I, ABSA 55 (1960), 105 to 107 (worked in Roman period).

[946] For a description of the remains of the installations at Mons Claudianus and Wadi Bilih see G. Schweinfurth, Die Steinbrüche am Mons Claudianus in der östlichen Wüste Ägyptens, Zeit. d. Ges. f. Erdkunde zu Berlin 32 (1897), 1—22; K. Fitzler, Steinbrüche und Bergwerke, 94—99; G. W. Murray, JEA 11 (1925), 148; D. Meredith, JEA 38 (1952), 98—101; C. H. O. Scaife, Univ. of Egypt Bull. Fac. of Arts 3.2 (1935), 87—102, who deals in detail with the large station and a small station in Wadi Bilih (plans VIII and X) and the quarries in the Wadi (plan IX). Cf. T. Kraus and J. Röder, MDAI(K) 18 (1962), 80—120; T. Kraus, J. Röder and W. Müller-Wiener, MDAI(K) 22 (1967), 114—155, which are the best studies of the site. Inscriptions and quarry marks: D. Meredith, Eastern Desert of Egypt: Notes on Inscriptions, CE 29 (1954), 103—123, 106 has a map of the area. Fitzler, who had a low opinion of the quality of the stone from Mons Claudianus and an exaggerated view of the difficulties involved in quarrying it, argued that production ceased at the site early in the second century, K. Fitzler, Steinbrüche und Bergwerke, 98—99. A number of texts at the site come from the reign of Trajan: IGR I.1254; IGR I.1255 = OGIS 678 = CE 29 (1954), 103 no. 22; IGR I.1256; and further expansion of the facilities is suggested by the inscriptions: CIL III.24 = ILS 5741 = IGR I.1259a and c: *Fons felicissimus / Traianus Dacicus*; ὕδρευμα εὐτυχέστατον / Τραιανὸν Δακικόν. Two texts come from the reign of Hadrian: IGR I.1257, 1258 (A.D. 137/138). A further inscription of the same period was published by T. Kraus, Zu einer neugefundenen Inschrift am Mons Claudianus, Acta of the Fifth Epigraphic Congress, 1967, 391—395. The evidence collected by Kraus and Röder for the use of the Mons Claudianus granite in Rome (based on chemical analysis) indicates that this stone was used in vast quantities throughout the imperial period as late as the Baths of Caracalla and Diocletian. See the list of columns tested in MDAI(K) 18 (1962), 117—120. Since only instances of original use were studied, this suggests that the Mons Claudianus quarries were still being worked at the end of the third century, ibid., 87—88, 113. Chemical analysis of the columns of the Temple of Trajan in Rome also confirms the use of stone from Mons Claudianus, see C. H. O. Scaife, The Origin of some Pantheon Columns, JRS 43 (1953), 37.

A further small dolorite quarry has been noted at the head of Wadi um-Tawat, see C. H. O. Scaife, Univ. of Egypt Bull. Fac. of Arts 3.2 (1935), 103—104.

For the view that the quarries at Mons Claudianus were an οὐσία of the *patrimonium* see M. Rostovtzeff, Staatspacht, 494; cf. K. Fitzler, Steinbrüche und Bergwerke, 112, 116; see also T. Kraus, in: Acta of the Fifth Epigraphic Congress, 1967, 393.

[947] Pliny, NH XXXVII.69 = FGrHist no. 275. F 77; Strabo XVII.1.45; Ptolemy, Geog. IV.5.14. For the workings at Mons Smaragdus see K. Fitzler, Steinbrüche und Bergwerke, 8, 99—101; G. W. Murray, JEA 11 (1925), 144—145; D. Meredith, JEA 39 (1953), 102. Also on the mines, discussing Byzantine and Arabic references, see L. P. Kirwan, Studies in the Later History of Nubia, LAAA 24.1/2 (1937), 73, 77—78; cf. Idem, GJ 123 (1957),

18, where he states erroneously that the mines at Jebel Zebara were not exploited by the Romans. A single inscription from the reign of Gallienus records the erection by Poluranus to Serapis, Isis and Apollo of τὸ ἱερὸν / . . . Βερενείκης καὶ τὸ ζῴδιον καὶ ὀρύξας / [τὸν λάκκον τοῦ ὑδ]ρεύματος ἀπὸ θεμελίου [ἐκ τ]ῶ[ν / ἐμῶν κα]μάτων ἀνέθηκα ἐπ' ἀγαθῷ / σὺν τοῖς τέκνοις καὶ τοῖς σὺν ἐμοὶ ἐγραζομένο[ις], OGIS 717 = IGR I.1274.
The Eastern Desert also contained mines of another semi-precious stone: amethyst. The amethyst workings at Wadi el-Hudi southeast of Aswan have yielded extensive remains of the Dynastic period (e. g. see A. Rowe, Three New Stelae from the South-eastern Desert, ASAE 39 [1939], 187—194 and A. Fakhry, A Report on the Inspectorate of Upper Egypt, ASAE 46 [1946], 51—54). A preliminary survey of the workings also yielded pottery of the Roman period and an enclosure of Roman date; A. Fakhry, Inspectorate of Asswan, ASAE (1945), 52—53 citing information from Murray.

[948] Meredith argued that the gold mines of the Eastern Desert were not worked in the Roman period. D. Meredith, JEA 38 (1952), 106—107. Also a number of scholars have noted that Roman gold-mining technology relied heavily on water separation, a technique difficult to utilize in the Eastern Desert; cf. O. Davies, Roman Mines in Europe (Oxford 1935), 211 and in particular G. D. B. Jones and P. R. Lewis, The Dolaucothi Gold-Mines, BJ 171 (1971), 288—297. But all this seems unlikely: see, for example, from El-Boueib a dedication Πανὶ χρυσόδωτηι by a σκληρουργός from Coptos, Bernand, De Koptos à Kosseir, no. 158; for other dedications to Πανὶ χρυσόδωτηι see ibid., nos. 163, 166,171,181(?); an ἐργοδότος appears in no. 48 (Wadi Hammamat — see on this text the revised reading in J. Bingen, Sur quelques proscynèmes grecs de l'Ouadi Hammamat, CE 47 [1972], 283—284) and a σκληρουργός from Syene in no. 49. Also on the epithet χρυσοδότης see J. Bingen, CE 47 (1972), 325. For ἐργοδότης see K. Fitzler, Steinbrüche und Bergwerke, 134. The earliest dated inscription from the gold-crushing site at Wadi Semna is from the reign of Tiberius, L. A. Tregenza, The Curator Inscription and other recently found fragments from Wadi Semna, Univ. of Egypt Bull. Fac. of Arts 13.2 (1951), 46—48 = SEG XX. 670 = SB VIII.10173. Three fragments of a second Latin text mention the Prefect Munatius Felix: L. A. Tregenza (with A. H. M. Jones), A Latin Inscription from Wadi Semna, ibid., 12.2 (1950), 85—89, pl. I—II. Stone grinders for crushing auriferous ore were also found in large numbers in and around the Roman station at Abu Zawal, see L. A. Tregenza, Univ. of Egypt, Bull. Fac. of Arts, 11.1 (1949), 128—129. For the gold mines at Wadi Fawakhir see D. Newbold, Deraheib Gold Mines, Antiquity 23 (1948), 33. There are considerable remains of buildings near the gold mines of Wadi Ghazza where Roman pottery has been found, see F. Bisson de la Roque, BSRGE 11 (1922), 119—121, figs. 4 and 5. For finds of sculpture from Fawakhir see J. Couyat, CRAI (1910), 534—536, figs. 2—3: a nude male, head missing, and a Venus. Huts and cemeteries of the Ptolemaic and Roman periods together with stones for crushing the ore are reported from the area of the Wadi Hammamat gold mines, see F. Debono, Expédition archéologique royale au Désert Oriental (Keft-Kosseir): Rapport préliminaire sur la campagne 1949, ASAE 51 (1951), 80, 82—83, 90.

[949] Cf. Pliny, NH VI.169; XXXVII.108; Strabo XVI.4.6; Diodorus III.39. For the topaz on St John's island (Zeberged) see G. A. Wainwright, Zeberged: The Shipwrecked Sailor's Island, JEA 32 (1946), 31—37. It is assumed here that all of the mines and quarries of the Eastern Desert were owned by either the *fiscus* or the emperor. The existence of private ownership of mines or quarries is sparsely documented; cf. Strabo III.2.10 on the silver mines of Nova Carthago: ἔστι δὲ καὶ νῦν τὰ ἀργυρεῖα, οὐ μέντοι δημόσια, οὔτε ἐνταῦθα οὔτε ἐν τοῖς ἄλλοις τόποις, ἀλλ' εἰς ἰδιωτικὰς μετέστασαν κτήσεις. τὰ δὲ χρυσεῖα δημοσιεύεται τὰ πλείω. Several inscribed ingots suggest a similar conclusion particularly for Spain: CIL XV.7916 = ILS 8708: *societ(atis) argent(ariarum) fod(inarum) mon(tis) Ilucr(onensis) galena*, and AE (1920) no. 120: *societ(atis) mont(is) argent(arii) Ilucro(nensis)*; cf. M. Rostovtzeff, Staatspacht, 445—446; see also Dig. VII.1.13.5: *ergo et auri et argenti et sulpuris et aeris et ferri et ceterorum fodinas vel quas pater familias instituit exercere poterit vel ipse instituere, si nihil agriculturae nocebit*. For early imperial confiscations see Tacitus, Ann. VI.19.1; Suetonius, Tib. 49.2; cf. O. Hirschfeld, Verwaltungs-

beamten^2, 148; E. SCHÖNBAUER, Beiträge zur Geschichte des Bergbaurechts, 135—136. C. H. V. SUTHERLAND, *Aerarium* and *Fiscus* during the Early Empire, AJPh 66 (1945), 160—161. See also the various phases of exploitation in the Noricum iron mines: G. ALFÖLDY, Patrimonium Regni Norici, BJ 170 (1970), 167—171.

Evidence for the existence of quarries which are not in imperial hands in Egypt is difficult to find. Private ownership is implied by inscriptions from the quarries at Jebel Toukh: Λατομίας τὸ πρῶτον ἀνεύ/ρετο, αὐτὰρ ἔπειτα / τάσδ' ὁ Μενιππείδης / ἐξεκένωσε πέτρας, SB I.4368a = Inscr. Métriques 117a; cf. K. FITZLER, Steinbrüche und Bergwerke, 114—115; and IGR I.1152 = SB I.4279 = SEG VIII.643 = Inscr. Métriques 116: Ἰσιδώρου. Πανὶ ὁμοῦ Νύμφαι Ἰσιδώρῳ τάσδε ἔδωκαν / λατομίας εὑρεῖν τῷ Μενιππ(ο)ίο γόνῳ, / ἡνίκα ἀτρήσ(τ)οι(ο) κελεύσμασι Μεττίου Ῥούφου / πάτρη ἡμετέρη κρηπῖδι λαοτόμουν; cf. G. PLAUMANN, Ptolemais in Oberägypten (Leipzig 1910), 110—111; cf. K. FITZLER, Steinbrüche und Bergwerke, 114—115, who argues that the nearby quarries in the Eastern Desert were owned by the city of Ptolemais; cf. P. JOUGET, La vie municipale dans l'Égypte romaine (Paris 1911), 426—427. Note that Ptolemais retained its Greek institutions and the pretence of independence from royal authority (cf. on which P. M. FRASER, Inscriptions from Ptolemaic Egypt, Berytus 13.2 [1960], 127—133). A second-century contract from Oxyrhynchus indicates that the small quarry near the town was being operated by a firm of stone-cutters; cf. the statement of the stone-cutters in their agreement with Antonia: ἐπιδεχόμεθα λαξείαν / τῶν οἰκοδομουμένων λίθων κύβων καμηλικῶν ἀπὸ Βορινῆς λατο/μίας εἰς οἰκίαν σου τῆς Ἀντωνίας (P. Oxy. III.498). The general question of the administration of Roman mines has been the subject of a number of studies: K. FITZLER, Steinbrüche und Bergwerke, 87—135; O. HIRSCHFELD, Verwaltungsbeamten^2, 145—180; E. SCHÖNBAUER, Beiträge zur Geschichte des Bergbaurechts (Munich 1929), and U. TÄCKHOLM, Studien über den Bergbau der römischen Kaiserzeit (Uppsala 1937). Two fragmentary Latin texts from Spain provide much of our evidence: the *lex metalli Vipascensis* in CIL II.5181 = ILS 6891 = BRUNS, Fontes 289—293 and the attendant *epistola procuratoris*, ibid, 293. Of importance for us here is the apparent administrative independence of the mining district from nearby municipalities. Within the *fines metalli Vipascensis* the working of the mines by *coloni* and *conductores* was administered by an imperial *procurator* with police and judicial powers. Cf. P. R. C. WEAVER, Freedmen Procurators in the Imperial Administration, Historia 14 (1965), 468. Quarries tended to be exploited directly by the emperor, usually by the use of imperial slaves and freedmen as *redemptores* under the supervision of *procuratores*, cf. *proc. marmorum* in CIL III.348 = ILS 1477 and *proc. (marmorum) n(ovorum* or *Numidicorum)* in CIL VIII.10589 = ILS 1597; CIL VIII.14551. Similarly gold mines, cf. *Aug. lib. proc(urator) aurariarum* (from Dacia) in CIL III.1312 = ILS 1593 (with an *Augusti libertus* who is *subpro(curator) aurariar[r(um)]*; cf. H. G. PFLAUM, Une inscription bilingue de Kos et la perception de la *Vicesima Hereditatium*, ZPE 7.1 [1971], 67 for the significance of this) and an *Aug. lib.* who is *tabul(arius) aur(ariarum) Dacicarum* in CIL III. 1297 = ILS 1594, but cf. the *leguli aurariar(um)* in CIL III.1307. Mines of the various metals were apparently administered separately; hence equestrian procurators with the title *procurator argentariarum Pannonicarum* (ILS 9019; AE [1915], no. 46 and [1958], no. 158) or *procurator argentariarum Pannonicarum et Dalmatiarum* (CIL III.7127 = ILS 1421; CIL III.8333; III.12733 = ILS 5587; CIL III.12721, cf. J. FITZ, Verwaltung der pannonischen Bergwerke, Klio 54 [1972], 211—225 cf. CIL III.8361 = ILS 1443 and AE [1956], no. 123: *procurator metallorum Pannonicorum et Dalmatiorum*). It was suggested by K. FITZLER, op. cit., 113—114 that the quarries, in line with imperial practice elsewhere, were worked by *redemptores* but proof is lacking. A single instance of a quarry leased to a *conductor* is attested: in OGIS 678 = IGR I.1255 Ἐπαφρόδειτος δοῦλος Σειγηριανὸς μισθωτὴς τῶν μετάλλων makes a dedication ἐπὶ Ῥαμμίωι Μαρτίαλι ἐπάρχωι Αἰγύπτου, ἐπιτρόπου τῶν μετάλλων Χρησίμου Σεβαστοῦ ἀπελευθέρου, / ὄντος πρὸς τοῖς τοῦ Κλαυδιανοῦ ἔργοις Ἀουίτου ἑκατοντάρχου σπείρης πρώτης Φλαουίας Κιλίκων ἱππικῆς. In IGR I.1256 = SEG XIII.601 Epaphroditus and Marcus Ulpius Chresimus are again mentioned but together with another centurion. Cf. M. ROSTOVTZEFF, Staatspacht 455 who argues that Epaphroditus is a *conductor* but cf. K. FITZLER, op. cit., 116—118 who regards E. as a „*Kleinpäch-*

ter" and argues that this unusual manner of working the quarry came about as the result of their marginal economic significance (an assertion which has subsequently been proven to be false). For Marcus Ulpius Chresimus, *Aug. lib.*, see P. R. C. WEAVER, Familia Caesaris (Cambridge 1972), 270.

[950] For the pearl fisheries of the Red Sea see below n. 963.

[951] The question of the status of the labour in the mines is a controversial and little studied one. In classical Greece and in the Spanish provinces of the Roman Republic the use of slave labour, particularly prisoners of war, is well documented: Xenophon, Poroi 4. 14—27 on Laurium; cf. the material assembled by S. LAUFFER, Die Bergwerkssklaven von Laurion, AWLM (1955), no. 12.1103—1217; (1956), no. 11.885—1015; cf. especially Thuc. VII.86.2, 87.1—2; Plutarch, Nicias 29 (Athenians in the stone quarries at Syracuse); Xenophon, Hell.I.2.14 (Syracusan prisoners in quarries in Piraeus). But in Egypt slave labour has never been a significant factor; cf. I. S. KATZNELSON, Rabovladenie v Koushe, VDI (1964), 2.74—92, who argues for the extensive use of slaves in the gold mines of the Sudan. The Ptolemies relied primarily on wage labourers, liturgical workers and condemned prisoners to work their mines and quarries (see below p. 943, n. 1178). In the Roman period the use of condemned criminals in mines and quarries is well attested. Egypt may, in fact, have received prisoners from other provinces where there were no mines or quarries; cf. Dig. XLVIII.19.8.4: *metalla autem multa numero sunt et quaedam quidem provinciae habent, quaedam non habent: sed quae non habent, in eas provincias mittunt quae metalla habent*; cf. XLVIII.19.31.1. The *damnati* were kept in chains and, to judge from the concern shown in the legal texts for escapees, constant vigilance by a strong guard contingent was necessary: Dig. XLVIII.19.8.6—8; cf. also 8.10,12. Such punishment was reserved for *servi* and *humiliores*: Dig. XLVIII.19.17,22,23,28.5-6,38.3-9; 13.7,8.2; cf. Pliny, Epp. II.11.8, Suetonius, Caligula 27.3 and Dig. XLVII.11.10 (for a peculiarly Egyptian crime); K. FITZLER, Steinbrüche und Bergwerke, 119—120,135 argues for the importance of such forced labour in Egypt. After the fall of Jerusalem in A. D. 70 some of the Jewish prisoners were sent to the Egyptian quarries: εἰς τὰ κατ' Αἴγυπτον ἔργα (Josephus, BJ VI.418); cf. most recently on these events Z. YAVETZ, Reflections on Titus and Josephus, GRBS 16.4 (1975), 414—418. For the condemnation of Christians to the porphyry quarries see Eusebius, De Mart. Palaest. VIII.1. Egyptians were also condemned for various crimes to the quarries: e. g. the judicial decision in BGU IV.1024. S.5.5—7: 'Εάσω / δὲ τὴν ἐμ μ̣[ε]τ̣άλ⟨λ⟩ω̣, ἵ̣ν̣α μ̣ι̣μ̣ν̣η̣σ̣κόμενος / ὧν ἔπ̣ρ̣α̣σες ἐ̣π̣ὶ̣ αὐ̣τ̣ὴ̣ν̣ [. . . . Cf. F. ZUCKER, Urkunde aus der Kanzlei eines römischen Statthalters von Ägypten in Originalausfertigung, SPAW 34 (1910), 713, 718—719 who publishes a papyrus which mentions the punishment of condemnation to the alabaster quarries for five years: εἰς ἀλαβάστρωνα ἐπὶ πενταετίαν (A.D. 209). See K. FITZLER, Steinbrüche und Bergwerke, 119—120, 135, who argues for the importance of such labour in Egypt. Aristides, Or. XXXVI (KEIL) 67, however, states that the *damnati* were not guarded by troops: ἔν γε τῇ 'Αραβικῇ καὶ ἡ περιβόητος αὕτη λιθοτομία ἡ πορφυρῖτίς ἐστιν· ἐργάζονται δ' αὐτὴν ὥσπερ καὶ τὰς ἄλλας δήπου κατάδικοι· ἀλλὰ τούτους γε, ὥς φασιν, οὐδεὶς φρουρεῖ, . . . ἀλλὰ φόβῳ τοῦ καυθήσεσθαι ζῶντες, δεῖ παθεῖν ἄν τις φεύγων ἁλῷ, μένουσιν οἱ μένοντες τῶν μεταλλέων. The presence of free labour in the Eastern Desert is suggested by some of the graffiti: e.g. BERNAND, De Koptos à Kosseir, no. 49: σκληρουργὸς / τῶν ἀπὸ Σο/λυήνης, who is probably to be connected with the free quarry workers from Syene mentioned in OGIS 168; cf. suggested restorations of U. WILCKEN, APF 3 (1906), 331. Further evidence for the use of free rather than forced labour may be found in an ostracon from Mons Claudianus, see C. PRÉAUX, Un ostracon du Mons Claudianus, CE 26 (1951), 354—363, pl. 27. Republished with commentary by J. F. GILLIAM, The Ostracon from Mons Claudianus, CE 28 (1953), 144—146, who notes that since the document seems to refer to a civilian receiving *cibaria* and other allowances at monthly intervals, free labour seems to be implied. On the basis of the settlement at Mons Claudianus it has been argued that forced labour was not used here, so T. KRAUS, J. RÖDER and W. MÜLLER-WIENER, MDAI (K) 22 (1967), 155—156; cf. their conclusion about the main loading ramp of Wadi Umm Sidri at Mons Prophyrites, ibid., 200—201. Our evidence thus seems to indicate that in the Eastern Desert *damnati* were used primarily at Mons Porphyrites. See also on the ope-

ration of the mines A. Bataille, P. Clermont-Ganneau 2, Aegyptus 31 (1951), 206—211, a letter from Διόσκορος ἐργοδ(ότης) καὶ οἱ σὺν αὐτῷ σκληρουργοὶ καὶ χαλκεῖς to 'Αμμωνᾷ ἐργοδ(ότῃ) καὶ κιβαριάτορει (late third century). The frequent reliance on free hired labour is also suggested by the Dacian wax tablets, three of which contain labour contracts for work in the gold mines, see S. Mrozek, Über die Arbeitsbedingungen in römischen Bergwerken des 2. Jahrhunderts u. Z., Altertum 14.3 (1968), 168—170.

In the fourth century liturgical labour was used in the mines; see, for example, P. Flor. I.3, in which the comarchs present to the *strategus* of Hermopolis Magna the names of two ἐργάται for work in the alabaster quarries.

952 Imperial troops frequently performed guard duty or served as technical assistants in Roman mines and quarries in many parts of the Empire. The phenomenon is particularly well attested for quarries and gold mines which the emperor worked directly or through *redemptores*. There are a few exceptions: troops stationed at Corbridge apparently worked the nearby iron deposits directly, see J. Liversidge, Britain in the Roman Empire (London 1968), 201—202. One of the legions stationed in Britain also placed its stamp on lead ingots, e. g. CIL VII.1209; CIL XIII.3491 = ILS 8709. More usually troops served as engineers and guards. For troops of the *legio VII Gemina* at the gold mines in the Rio Duerna region of Northwest Spain see R. F. Jones and D. G. Bird, Roman Gold Mining in Northwest Spain, II: Workings on the Rio Duerna, JRS 62 (1972), 73—74; cf. also the notice in the famous *pridianum(?)* of the *cohors I Hispanorum Veterana* (c. A. D. 100/105): *ịn Dardanịa ạd metalla* (CPL no. 112 = ChLA III no. 219 = Rom. Mil. Rec. 63.ii.22). The role of the army in working the quarries of Egypt is well attested: e. g. CIL III.75 = ILS 4424 (A. D. 205/211): *iuxsta Philas novae / lapicaedinae adinven/tae, tractaeque sunt para/staticae et columnae / grandes et multae, sub / Subatiano Aquilae pr./ Aeg. Curam agente op(eris) dominic(orum)/ Aurel. Heraclidae dec(urione) al(ae) (Thracum) Mauretanae.* Three units, two simultaneously, are stated to have guarded the quarries of Jebel Toukh near Ptolemais (see above p. 887, n. 949); cf. ILS 2609: *Caesio dec(urio)/ feliciter / homini bono / gratias egimus / omnes commilitones / qui sub cura eius sumus*; cf. ILS 2610 Caesius Valens *decurio alae Vocontiorum.* Cf. from the same quarry ILS 2611: *omnibus / commilitonibus / qui hic fuerunt ad / custodias felic. / coh. scut. c. R. feliciter / coh.III Itur(aerum) felicit(er).* For Mons Claudianus see CIL III.25 = ILS 2612: *Annius Rufus (centurio) leg. XV / Apollinaris, praepositus / ab optimo imp. Traiano / operi marmorum monti Claudiano* (Dessau's restoration in line 4 is actually on the stone); the stone altar on which the inscription was cut is from the temple of Serapis, see D. Meredith, CE 29 (1954), 108, fig. 11 (photograph). Other such texts from Mons Claudianus: Milne, Gr. Inscr. Cairo no. 9277 = IGR I. 1254, a dedication by a centurion; IGR I.1255 mentions a centurion of the *cohors I Flavia Cilicum* πρὸς τοῖς τοῦ Κλαυδιανοῦ ἔργοις; IGR I.1258. For a centurion's dedication from Mons Porphyrites see C. H. O. Scaife, Univ. of Egypt Bull. Fac. of Arts 2.1 (1934), 107—108 = SB V.8161 = AE (1936) no. 61 = SEG VIII.644: Πανκράτις / (ἑκατόνταρχος) φρουμαντάρις; cf. also D. Meredith, CE 28 (1953), 133—134 no. 6; WO II.951 (A. D. 183) is a receipt for the delivery of produce εἰς Πορφυρ[ί]τ(ην); cf. WO I. pp. 164,715; Wilcken suggests the delivery is to troops stationed there. Troops may also have been used at the Jebel Toukh quarries, see IGR I.1152 = Inscr. Métriques no. 116 (above n. 949), with discussion of J. Zingerle, Römisch-Militärisches aus Ägypten, APF 9 (1930), 6—9.

For ostraca from the mines of Wadi Fawakhir see O. Guéraud, Ostraca grecs et latins de l'Wadi Fawakhir, BIFAO 41 (1942), 141—196 (nos. 1—7 Latin; nos. 8—59 Greek, cited here as 'O. Fawakhir'). Many of the ostraca mention soldiers: nos. 1,2,4,8,9,12,19,22, 23,57. O. Fawakhir 58 is an account of mining tools; cf. D. Meredith, JEA 39 (1953), 97—98. A further ostracon from the same site was published by J. Schwartz, CE 31 (1956), 119—123 = SB VI.9164. An inscribed altar from the quarries at Tehne also mentions a centurion assigned to the quarry probably as engineer: Τίτος 'Ιγνάτιος Τιβερῖν[ος] / ρ̣̄ (l. ἑκατοντάρχος) λεγεῶνος γ̄ Κυρη̣ν̣ηικ̣ῆς / ὁ ἐπὶ τῆς λατομίας τοῦ τόπου οὗ / στρῶσις τῆς πόλεως / 'Αλεξανδρείας, so K. Fitzler, Steinbrüche und Bergwerke, 109, n. 1; cf. the different readings in Seymour de Ricci, APF 2 (1901—1903), 436, no. 33 = IGR I.1138.

[953] Such an attack may possibly be the subject of a papyrus of the late first century which describes an engagement between Roman troops and Trogodytes and Ethiopians; cf. the comments and revised readings and restorations in E. G. Turner, Papyrus 40 'Della Raccolta Milanese', JRS 40 (1950), 57—59 who suggests that the Nile expedition of the time of Nero is referred to. This seems very unlikely, cf. the comments of L. P. Kirwan, GJ 123.1 (1957), 17n (cf. above n. 897). A battle between the Agriophagii, who lived in the Eastern Desert (see Periplus c. 2 [= Frisk, p. 1.9]) and the Roman army is mentioned in a Theban bilingual text of the reign of Hadrian, IGR I.1207: *Pro salute Imp. Caesaris/ Traiani Hadriani Aug./ domini n. voto Serenus/ aram inst[r]u[x]it Ioui. Biduo/ secutus. Agriophagos nequ/ issimos quorum fere pars mai/or in pugna perit neque vulnera / [n]eque crei . . . . . . c ile praedamque totam cum camelis apstulit*; 'Υπερ σωτηρίας Αὐτοκρατορος Καίσαρος / Τραιανοῦ 'Αδριανοῦ Σεβαστοῦ τοῦ κυρίου / Σουλπίκιος υἱὸς Γναίου Κουρίνα̣ / Σερηνὸς 'Αγριοφάγους δει[νοτ/ατου . . . .]. See on this text E. Demougeot, Annales (ESC) 15.2 (1960), 243. Little is known about the native inhabitants of the Eastern Desert. The Blemmyes are mentioned in the area of the Egyptian-Ethiopian frontier as early as the days of Eratosthenes, Strabo XVII.1.2. R. W. Bulliet, The Camel and the Wheel, 117—118 suggests that the Blemmyes became increasingly more dangerous to neighbouring settled regions as they learned to domesticate the camel. The Blemmyes are mentioned a number of times in Demotic graffiti and papyri, e. g. CDGD Ph. 371 (refers to an attack by the Blemmyes on the Nubians in A.D. 373); P. Dem. Ryl. III.16 (152 B.C.); P. Dem. Hausw. 6 and F. L. Griffith, Papyrus Dodgson, PSBA 31 (1909), p. 105 (line 21), cf. Idem, Additional Notes on the Papyrus Dodgson, PSBA 31 (1909), 291. Cf. for the Demotic *B-l-h-m-w* and the Coptic forms *Balnemmooui*, *Balehmou* or *Blhmooue* W. Vycichl, The Name of the Blemmyes, Kush 6 (1958), 179. Their raiding activities in the early period of Roman occupation are largely a matter of inference, cf. the view of L. P. Kirwan, GJ 123.1 (1957), 15 who suggests that Roman roads and posts in the area south of Aswan were on the west side of the Nile because of the threat of Blemmye raids. Further south on the Island of Meroe it appears that the Meroitic civilization clung to the Nile Valley, albeit on the east bank, with only a few outposts and fortifications at Umm Usuda, Jebel Surat, Jebel Geheid and Jebel Qeili in the East Butana region which was occupied by nomads, see F. Hintze, Kush 7 (1959), 196. This pattern is even more distinctive in the light of the fact that further north of Aswan there was extensive Roman settlement on the east bank of the Nile, even in areas where there was no alluvium; see on this K. W. Butzer, Remarks on the Geography of Settlement in the Nile Valley during Hellenistic Times, BSRGE (1960), 25—28; cf. J. A. Wilson, Buto and Hierakonpolis in the Geography of Egypt, JNES 14.4 (1955), 225—227. For the arms of the Blemmyes see P. Huard, Contribution à l'étude du cheval du fer et du chameau au Sahara oriental, BIFAN ser. B, 22.1.2 (1960), 159. For the long tradition of raiding nearby settlements among these tribes see L. P. Kirwan, LAAA 24.1/2 (1937), 69—76.

The other inhabitants of the southern part of the Eastern Desert were the Ichthyophagoi and the Trogodytes. Most of our information on the former comes from the fragments of Agatharchides, 31—48. See discussion in J. Partsch, BKSGW 68.2 (1916), 7—13; D. Woelk, Agatharchides von Knidos über das Rote Meer, Diss. inaug. (Bamberg 1966), 127—141. For the Trogodytes who lived further inland see Agatharchides frags. 61—63, esp. frag. 61 = Diodorus III.32.1 on their manner of life, i. e. as nomads who followed their flocks and herds; on their warlike nature, see frag. 63 = Diodorus III.33.3 cf. the commentary of D. Woelk, op. cit., 159—168.

The Roman units in the Eastern Desert may also have been involved in other tasks. See for example a letter on O. Fawakhir 14: 'Αντῶνις Πρῶκλος / Οὐαλεριανῳ τῷ ἀδελ/φῷ πλεῖστα χαίρειν. Γράψον / τὸ λίβελλον ὅτι ἀπὸ 'Ακρι/ππίνος ἕως ἄρτι ὑπὸ τοῖς / ἐπάρχοις γυνηγοῦμεν / πάντα τὰ θηρία καὶ / πετ⟨ε⟩ινὰ ἐφ' ἔτους. The only clue to the date of the document is the name 'Ακριππινος, possibly derived from one of the Agrippinas of the Julio-Claudian house.

[954] The protection of roads by Roman troops can be paralleled elsewhere in the Empire: for Italy see Suetonius, Aug. 32.1; Tib. 37.1; CIL XI.6107 = ILS 509; for Gallia Narbonensis,

see CIL XIII.5010 = ILS 7007; for Africa see CIL VIII.2444, 2495. See in general the discussion of O. Hirschfeld, Gallische Studien, SAWW 103 (1883), 311—312 = Kleine Schriften (Berlin 1913), 81—82; Idem, Die Sicherheitspolizei im römischen Kaiserreich, SPAW (1891), 859—872 = Kleine Schriften, 591—612. The *beneficiarii* and *stationarii* attested in other provinces along major roads and at toll stations are not well documented in Egypt (for στατίων and στατιωνάριος used in a military sense see T. Drew-Bear, Some Greek Words: Part I, Glotta 50.1/2 [1972], 93 and Idem, Latin Terms in Greek: a Discussion, CPh 71.4 [1976], 353). More frequent in Egypt is the description of individual *stationarii* as ἐπὶ τῶν τόπων (BGU II.522, P. Fouad inv. 45) or *stationarius* Κυνωπολιτῶν (sixth century); cf. S. Daris, Dai papiri inediti della raccolta Milanese, Aegyptus 37 (1957), 101—102 (cf. the usage in Asia Minor describing *stationarii* as κατὰ καιρόν, L. Robert, Études anatoliennes, 285). See now for στατίων O. Amst. 8e, 11 (στατίονες κόμης) and 21 and the list of στατιωνάριοι in O. Amst. 12 (second century). There follows a list of Greek and Egyptian names indicating that liturgical civilian guards rather than troops are involved. For lists of those nominated to perform liturgical guard duties see P. Stras. 537, cf. N. Lewis, BASP 9.1/2 (1972), 32—33; see also a Greek ostracon published by P. J. Sijpesteijn, Fourteen Ostraca from a Private Collection, ZPE 14.3 (1974), 234 no. 9 (second century), a letter from a *duplicarius* which lists the names and ages of guards for a certain month, so also O. Florida 26.

For the graffiti of soldiers in the Eastern Desert see the examples listed above n. 940. For towers along the road from Coptos through Wadi Hammamat see G. W. Murray, JEA 11 (1925), 145. Such observation towers also occur along the Roman roads through the deserts of North Africa, see J. Baradez, Vue aérienne de l'organisation romaine dans le Sud-Algérien, Fossatum Africae (Paris 1949), 69, 72. In general on ἐρημοφύλακες in Egypt see O. Hirschfeld, Die ägyptische Polizei der römischen Kaiserzeit, SPAW (1892), 820—824 = Kleine Schriften, 619—623. Under the Empire ἐρημοφύλακες are not well documented, e. g. Stud. Pal. XXII.156 (A.D. 138 ?) and P. Rein. II.95 a notice to ἐρημοφύλαξι καὶ δεκανοῖς. The references from the Ptolemaic period are more numerous but almost all come from a series of land surveys from Kerkeosiris of the late second century B.C.: P. Teb. 60, 61b, 62, 63, cf. SB X.10448. In the case of Egypt such patrols not only provided protection but also were necessary to control the evasion of tolls and smuggling for which the desert roads on either side of the Nile have been traditionally used, see J. A. Wilson, JNES 14.4 (1955), 226—227. The wall which ran through the desert from south of Philadelphia to the Nile may also have had as its purpose the hindrance of traffic which was trying to avoid the tolls charged on the routes from the Fayum to the Nile (see above n. 549); so A. E. Samuel, JJP 13 (1961), 47; for the wall see A. Rowe, A Contribution to the Archaeology of the Western Desert: III, BJRL 38 (1955/56), 162—165. It may have been one task of the civilian guards described as οὐεγτιγαλίωνες in O. Amst. 8e (their posts are designated as ἄνω and κάτω, cf. O. Amst. 13 and 15) to guard against such smuggling. A number of recently published ostraca contain references to σκόπελοι and σκοπελάριοι (previously only in SB VI.9549.8): O. Florida 6 (δεκανὸς τῶν σκοπ̣[ελαρίων], 24, O. Amst. 10; for σκόπελος see O. Florida 2, O. Amst. 8a—b, d, 14 and 15. Particularly revealing for the interaction of military officers with civilian guards is O. Florida 2: Ἑρέννιος Ἀντωνεῖνος (δεκαδάρχης) Ἀματίωι χαίρειν· τὸν υἱὸν τοῦ Βαλανέος τὸν ἐν τῶι σκοπέλῳ ὄντα μικρόν, εἰπὲ τῷ δεκανῷ ἵνα ἀντ' αὐτοῦ βάλῃ νεανίσκον. ἐγὼ γὰρ καὶ ἐνετιλάμην περὶ αὐτοῦ αὐτῶι.

[955] For the reports of the remains of Roman posts in both ports see below n. 986 for the literature on these sites.

[956] For the imperial monopoly on spices see below n. 992. This does not mean that I regard the commerce with India as the primary motive behind Rome's interest in the Eastern Desert as others have done, e. g. J. Thorley, G&R 16 (1969), 210. As noted above there is ample evidence for other Roman interest and activities here, but only a desire to protect and regulate the trade which passed through Myos Hormos and Berenice would necessitate the stationing of troops there.

[957] Many have spoken in favour of its existence: so for example, M. P. Charlesworth, CQ 22 (1928), 99; M. Rostovtzeff, SEHRE², 2.605—606, n. 19; P. J. Sijpesteijn, Trajan and Egypt, in: E. Boswinkel, P. W. Pestman and P. J. Sijpesteijn, Studia Papyrologica Varia (Leiden 1965), 112 n. 40; F. Altheim and R. Stiehl, Die Araber in der Alten Welt, 1.494—495.

The Romans did however continue the Ptolemaic practice of stationing river-guards on the Nile (see below p. 1019, n. 1521), see M. Merzagora, Aegyptus 10 (1929), 122—123 (on ποταμοφυλακίδες νῆες); cf. C. Kunderawicz, Ad Papyrus Hibeh 198, JJP 15 (1965), 142—143. On λειτουργία ποταμοφυλακίδων see F. Oertel, Die Liturgie, Studien zur ptolemaïschen und kaiserlichen Verwaltung Ägyptens (Leipzig 1917), 272—273. The fleet was sometimes under the command of the prefect of the Alexandrian fleet; see CIL II.1970 = ILS 1341: *L. Valerius Proculus, praef. classis Alexandrin(ae) / et potamop[h]y[l]aciae.* Wilcken suggested in WO I.284, 294, n. 2 that one possible function of the naval vessels on the Nile may have been to assist in the collection of tariffs and tolls. For the tax levied to maintain the river squadron, see below p. 1019, n. 1521.

[958] So C. G. Starr, Roman Imperial Navy, 113; 121—122, n. 19; K. Wellesley, PP 9 (1954), 402.

[959] There seems little doubt about the geography of Eutropius VIII.2: *Usque ad Indiae fines et Mare Rubrum accessit atque ibi tres provincias fecit, Armeniam, Assyriam, Mesopotamiam, cum his gentibus, quae Madenam attingunt. Arabiam postea in provinciae formam redegit. In Mari Rubro classem instituit, ut per eam Indiae fines vastaret.* Cf. also Hieronymus ad Euseb. Chron., R. Helm (ed.), Eusebius Werke, VII.1 (Die Griechischen Christlichen Schriftsteller [Leipzig 1913]), 194. *Mare Rubrum* in these passages is usually identified as the Persian Gulf, see H. Kortenbeutel, Süd- u. Osthandel, 66—67; C. Préaux, Phoibos 5 (1950—51), 134; C. G. Starr, Roman Imperial Navy, 113.

[960] Rostovtzeff's major piece of evidence in favour of the existence of such a fleet is his restoration of the Medamut inscription: Λητοῖ θεᾷ μεγίστῃ / Αἰλία 'Ισιδώρα καὶ Αἰλί[α] / 'Ολυμπιὰς ματρῶναι / στολᾶται ναύκληροι καὶ / [ἔμπο]ροι 'Ερυθρϊακαὶ ἅμα / [. . . 'Α]πολιναρίῳ / ἐπάρχ[ῳ κλάσση]ς, 'Ολυμ/πιάδος καὶ ['Ισιδώρας] / ἀμφοτέρων [ἀδελφῷ]. See M. Rostovtzeff, SEHRE², 2.605, n. 19. Accepted by H. Kortenbuetel, Süd- und Osthandel, 71 and B. J. Sijpesteijn, in: Studia Papyrologica Varia 112, n. 40. But cf. P. Jouguet, Dédicace grecque de Médamoud, BIFAO 31 (1931), 3, 26—28, 28 n. 1 (cf. SEG VIII. 703) who is uncertain about the restoration and suggests possible alternatives: ἐπάρχ[ῳ̣ ἀνδρὶ τῆ]ς 'Ολυμ/πιάδος καὶ [κυρίῳ τῶν] ἀμφοτέρων [ἀδελφῶν]. The other piece of evidence is neglected by Starr: O. Petr. 279 (16 Sept. A.D. 52), a receipt for corn made out in Myos Hormos mentions Σατορνῖλος τεσσαράρις κ̣υβέρνου (i. e. κυβερνήτης), cf. M. Rostovtzeff, Review of J. G. Tait, Greek Ostraca in the Bodleian Library at Oxford and various other Collections, vol. 1 (London 1930), Gnomon 7 (1931), 25 who argues that Satornilus is part of the Roman fleet stationed at Myos Hormos; so also H. Kortenbeutel, op. cit., 71. This would be virtually without parallel — only one other *tesserarius* is attested in the Roman navy: CIL XI.6107 = ILS 509. Cf. on this text M. Bollini, Vibio Seneca, StR 17 (1966), 232—233. The ostracon is cited as evidence for some sort of Roman naval presence on the Red Sea by S. Daris, Aegyptus 36 (1956), 245—246.

A tax-receipt from Oxyrhynchus of A.D. 359 may have some bearing on the question of the existence of a Red Sea fleet. From this document we learn that in early Byzantine Egypt a tax described as [ν]α̣υτῶν 'Ινδίας was apparently being levied throughout Egypt, see H. I. Bell, A Byzantine Tax-Receipt (P. Lond. inv. 2574), MémIFAO 67 (1934), 107—108, line 8; cf. F. Heichelheim, Review of E. Leider, Der Handel von Alexandreia . . ., PhW (25 Jan. 1936), 77.

Two Latin naval rosters are known from the imperial period: PSI I.308 and P. Ryl. II.79 = CPL no. 125 = ChLA IV.241 = Rom. Mil. Rec. no. 28; see J. F. Gilliam, A Roman Naval Roster, P. Rylands 79, CPh 48 (1953), 97—99. For the enlistment of Claudius Terentianus in the *classis Augusta Alexandrina* see P. Mich. VIII.467 = CPL 250, cf.

R. W. Davies, The Enlistment of Claudius Terentianus, BASP 10 (1973), 21—22. For 'towers' which may have served as beacons or aids to navigation along the Red Sea coast see D. Meredith, JEA 43 (1957), 58—59.

961 Hogarth read line 18 of the Coptos Tariff as γυναικῶν εἰσπλεουσῶν, D. G. Hogarth, in: W. M. Flinders Petrie, Koptos, 27 who argues (p. 31) that the phrase refers to free as contrasted with slave prostitutes. This reading also in OGIS 674, IGR I.1183 and Seymour de Ricci, APF 2 (1902—03), 438, no. 37. Cf. P. Jouguet, Inscriptions grecques d'Égypte, BCH 20 (1896), 171, 174 who interprets the phrase as referring to the concubines of sailors in the Red Sea fleet. This would make better sense if the text were emended to γυναικῶν εἰσπλεόντων. The levy on women in this text is of considerable interest. Since it was illegal for Roman soldiers to contract marriages during their time in the army the women in this inscription are officially concubines (on the prohibition see P. Garnsey, Septimius Severus and the Marriage of Soldiers, CSCA 3 [1970], 45—53, cf. G. Alföldi, GRBS 15 [1974], 99—100, cf. now on the question of soldiers' marriages an excellent paper of H. Youtie, in: Hommages à C. Préaux, 723—740). In a sense the Coptos Tariff thus recognizes a practice which was no doubt common. For the men of the Roman fleet cohabitation with a woman *concessa consuetudine* was officially sanctioned, see L. Wickert, Die Flotte der römischen Kaiserzeit, WJA 4 (1949/50), 110. The presence of women in the Eastern Desert is in fact attested, cf. O. Fawakhir 31 and 35. The archive of Nicanor also mentions an Ἰσιδώρα Μηνοδώρου who acts as an agent for C. Norbanus in Myos Hormos: O. Petr. 244, 257; O. Bruss. Berl. 7 — the κλ̣ι̣α in line 1 should be corrected to [Ἰσι]δ̣ω̣ρα; possibly the same woman is mentioned in an ostracon from the station at El-Heita published by D. Meredith, CE 31 (1956), 356—358.

962 Periplus c. 19 (= Frisk, p. 7.1—2), see text cited below p. 982, n. 1350. For use of archers to protect vessels sailing in the Red Sea, see Pliny, NH VI.101: *quippe omnibus annis navigatur sagittariorum cohortibus inpositis; etenim piratae maxime infestabant*; cf. M. P. Charlesworth, in: Johnson Studies, 138—139 for speculation about their official status. References to units of archers among the Roman troops in Egypt in the first century are rare; see the general survey of units of archers in the Roman army by H. van de Weerd and P. Lambrechts, in: F. Altheim and R. Stiehl, Die Araber in der Alten Welt, 1. 662—667. Cf. possibly P. Iand inv. 501.1: το]ξότηι in H. G. Gundel, Weitere kleine Beiträge zum römischen Heerwesen in Ägypten, Aegyptus 23 (1943), 157—158, cf. H. C. Youtie, Parerga Papyrologica, TAPhA 78 (1947), 120—122.
It is interesting to note that in the Sung period Chinese ships carried bowmen as protection against pirates, see Wang Gungwu, JMBRAS 31.2 (1958), 108; so also the merchant ships of Venice on their voyages to the Levant, see F. C. Lane, Andrea Barbarigo, Merchant of Venice, 1418—1449, 17.

963 Two inscriptions, one from Wadi Semna, the other from Wadi Hammamat, furnish most of our information. For the Wadi Semna text see F. W. Green, Notes on some Inscriptions in the Elbai District, PSBA 31 (1909), 322—323, pl. 55 (plate only) = AE (1910), no. 207, published by R. Cagnat, CRAI (1910), 580—585; K. Fitzler, Zur kaiserlichen Bergwerksverwaltung in Ägypten, APF 5 (1909/13), 422—423. Fitzler believes the text represents a *cursus* rather than offices held simultaneously and that the names in the text represent place names. The stone was lost since 1910, then found and published with corrected readings by L. A. Tregenza (with G. W. Murray), Univ. of Egypt Bull. Fac. of Arts 13.2 (1951), 39—46 = SEG XX.670 = SB VIII.10123: Ἐπεὶ Ποπλίου / Ἰουεντίου Ῥούφου χιλιάρ/χου τῆς τερτιανῆς λε/γεῶν⟨ος⟩ καὶ ἐπάρχου Βερνίκη/ς καὶ ἀρχιμεταλλάρχου / τῆς ζμαράγδου καὶ βα/ζίου καὶ μαργαρίτου καὶ πάντων τῶν μετάλλων / τῆς Αἰγυπτίου . . . (A.D. 11). Murray and Tregenza have shown that the inscription does not mention place names but rather types of mines. Hence the sense is τῆς ζμαράγδου (λίθου). Βαζίου is a variant of τοπαζίου and thus a reference to St. John's island (cf. Hesychius πάζιον, ὃ καὶ τοπάζιον, λίθος πολύτιμος and W. Till, Koptische Heiligen- und Märtyrerlegenden [Rome 1935], p. 192: BACION as topaz in a Coptic text). For these mines see above n. 949. An inscription of A.D. 18 from Wadi Hammamat also mentions

Publius Iuventius Rufus μεταλάρχη ζμαράκτου / καὶ Βασίου καὶ μαρκαρίτου καὶ λατόμων πάν/των τῆς Αἰγύπτου . . . and Publius Iuventius Agathopus ἀπελεύθερος / αὐτοῦ καὶ / προγονητὴς / πάντων . . . OGIS 660 = IGR I.1236 = SB V.8580 = Bernand, De Koptos à Kosseir, no. 41; cf. another text of Agathopus, Bernand, De Koptos à Kosseir, no. 39 (A.D. 14). The mines are later run by an imperial procurator, e. g. IGR I.1256 = SB V.8320 (A.D. 117—119): Μάρκου Οὐλπίου Χρησίμου ἐπιτροπεύοντος τῶν μετάλλων (from Mons Porphyrites), republished D. Meredith, CE 28 (1953), 126—128, no. 1 = SEG XVII.601. Also IGR I.1255 = OGIS 678 = SB V.8324 (A.D. 118) from Mons Claudianus, republished D. Meredith, CE 29 (1954), 103—105, no. 22.

The regulation and supervision of Red Sea pearling can also be argued on the basis of analogous cases both in Egypt and elsewhere. Egyptian documents attest to the purchase of fishing concessions and the close government supervision of these along the Nile and associated bodies of water; see the list of documents in A. C. Johnson, Roman Egypt, 275—278. P. Wisc. 6, a lease of fishing rights is re-edited with commentary by J. R. Rea, P. Wisc. 6 Revised, ZPE 12.3 (1973), 262—264; cf. on such regulations H. Henne, PSI 901 et la police de la pêche dans l'Égypte gréco-romaine dans ses rapports avec la religion, Aegyptus 31 (1951), 184—187, 191. An inscription from Aradus mentions the erection of a statue τῷ λιμένι τῶν ἐν πό/λι πορφυρέων which was under the administration of four limenarchs of the municipal government; see IGLS VII.4016 bis. Possibly the pearl divers of the Red Sea coast were organized in the same manner as the shell fishermen of Miletus: OGIS 756: a dedication by ὁ στόλος τῶν σωληνο/κεντῶν; cf. L. Robert, Trois oracles de la théosophie et un prophète d'Apollon, CRAI (1968), 595—597.

[964] Periplus c. 1 (= Frisk, p. 1.1—4), see the text cited below n. 993. All other arguments for the existence of a Red Sea fleet are purely speculative: it was suggested by Kornemann that the description of the Himyarite ruler Χαριβαήλ as ἔνθεσμος βασιλεὺς (Periplus c. 23 = Frisk, p. 7.28) must signify a *socius et amicus* and that Socotra had a Roman garrison, E. Kornemann, Janus 1 (1921), 60—62. W. Schur, Die Orientpolitik des Kaisers Nero, 48—49, suggested that a Roman garrison was stationed at Aden; so also M. Rostovtzeff, APF 4 (1907—08), 310—313, who suggests that the *vectigal Maris Rubri* was collected at Bab el-Mandeb, to which tax station he attributes the νόμος τελωνικός in Chrest. Wilck. 273 (cf. above n. 550); so also H. Kortenbeutel, Süd- u. Osthandel, 59. A. Sprenger, Die Alte Geographie Arabiens (Bern 1875) notes a fort near Aden which seemed to him to be of Roman origin (cf. below p. 1038, n. 1589 for similar observations by early travellers to Ceylon). Accepted by D. Kornemann, op. cit., 62 and J. Desanges, Actes du 92e Congrès National des Sociétés Savantes, 49—50. The area of Aden has been explored by subsequent visitors and no such building has been reported, see below p. 923, n. 1111.

Perhaps rather than creating a separate fleet for the Red Sea, an area in which there was from the Roman point of view no strategic need for such a unit, ships may have been detached for temporary duty here from the *classis Alexandrina* (by way of the Nile-Red Sea canal). A number of parallels for this procedure may be cited. A detachment of the Ravenna fleet was apparently stationed at Piraeus, see CIL III.557 and an inscription from Eleusis, G. Susini, L'iscrizione di un classiario ravennate ad Eleusi, Epigraphica 29.1/4 (1967), 173—174 = AE (1968), 472. One detachment of the *classis Syrias* appears to have been stationed at Ephesus where some of its docks and repair yards may have been located, see AE (1972), 582 cf. commentary in E. Weber, Eine unbekannte Bezeichnung für eine wichtige Tätigkeit im Schiffbau, ZPE 13.1 (1974), 18.

[965] The date of the annexation is now firmly fixed to A.D. 106; see H. J. Polotsky, IEJ 12. 3/4 (1962), 258; G. W. Bowersock, ZPE 5 (1970), 41; Idem, JRS 61 (1971), 231. For the road see ILS 5834: *imp. Caesar . . . redacta in formam provinciae Arabia viam novam a finibus Syriae usque ad mare Rubrum aperuit et stravit per C. Claudium Severum.* It cannot be argued that the building activities of various emperors unselfishly contributed to the movement of commerce by land and sea, as does for example J. Rougé, Recherches sur l'organisation du commerce maritime en Méditerranée sous l'Empire Romain (Paris 1966), 465—466. Cf. the interesting study of T. Pekáry, Untersuchungen zu den römi-

schen Reichsstraßen (Bonn 1968), 91—171 who concludes that the *fiscus* seldom paid for road construction; in most cases the cost was borne by the *possessores* and communities along the road. In the case of Arabia and the Eastern Desert, however, he concedes that human habitation was too sparse to make this possible. Note also that the Nile-Suez canal of Trajan was paid for by a tax apparently levied on the entire Chora; see W. MÜLLER, Griechische Ostraka, APF 16 (1958), 211, no. 32 (Sept. 2, 112) a tax receipt: Ἔχω παρὰ σοῦ ὑπ(ὲρ) κενοῦ (sic) πωταμοῦ (sic) Βαβυλῶνος δραχ(μὰς) τέσσαρες (sic). Other instances of taxes levied for the building of public works projects are known, see R. MACMULLEN, HSCPh 64 (1959), 225, nn. 25 and 26 (on ILS 2666a and CIL VIII.10327).

[966] The milestones bear dates of A.D. 111 and 114; see P. THOMSEN, ZDPV 40 (1917), 34—57. But construction may have already been underway in 107; see P. Mich. VIII.466. For the problems created by the styling of C. Claudius Severus in P. Mich. VIII.466 as ὑπατικός see R. SYME, Consulates in Absence, JRS 48 (1958), 4—5; cf. G. W. BOWERSOCK, ZPE 5 (1970), 41—42 and L. PETERSEN, Iulius Iulianus, Statthalter von Arabien, Klio 48 (1971), 159, n. 3.
For the road as part of the *limes* system of the new province see M. A. STEIN, GJ 95 (1940), 436—437. The road may also have been important for another reason. A road can be traced from the Nabataean inscriptions along its course from Aila to the South Sinai where a major Nabataean town has been found at Tell el-Mekharet in Wadi Feiran. In the north Nabataean inscriptions were found in the Wadi Umm Sideira. Further inscriptions including one in Latin were found in Wadi Tuweiba, F. FRANK, Aus der ʿAraba, ZDPV 57 (1934), 247 (an epitaph of a soldier of the *legio III Cyrenaica*, A. ALT, Aus der ʿAraba III: Inschriften und Felszeichnungen, ZDPV 58 [1935], 62—64 = SEG VIII.345 = AE [1936], 131 revised and republished in: E. D. KOLLMANN, A Soldier's Joke or an Epitaph?, IEJ 22.2/3 [1972], 145—146 = AE [1972], 671). The Bostra — Aila road may thus also have served to connect the roads from the Sinai mines with the rest of the province. The entire Sinai route was surveyed by the Sinai expedition of 1968. See B. ROTHENBERG, PEQ 102 (1970), 9—29: in Wadi Naṣb a large number of Nabataean inscriptions was reported; similar graffiti were found at a number of copper mining sites in Wadi Naṣb, particularly at the large copper smelting site of Bir Naṣb, in the vicinity of the ancient turquoise mines in Wadi Iqna and Wadi Umm Temeryim; and Nabataean, Greek, Latin, and Jewish inscriptions were found in Wadi Feiran, Wadi Mukattab, Wadi Umm Rowa, Seih Sidri, Wadi Sidri, Wadi e-Sheikh und particularly near ʿAin Ḥudera in Wadi Ḥudera (for some of these see ibid., pls. VIII B, IX, X.B). For the Greek (and one Latin) inscriptions from Wadi Umm Sideira see B. LIFSHITZ, Inscriptions de Sinai et Palestine, ZPE 7.2 (1971), 151—154, nos. 1—8. Further large and apparently important copper mining regions were also located near the main road in the vicinity of Dana, Fenan and Shaubak and in the region southwest of Petra but the surface remains suggest that most activity occurred here during the third and fourth centuries, see H. D. KIND, Antike Kupfergewinnung zwischen Rotem und Totem Meer, ZDPV 81.1 (1965), 56—73.
Any commercial purpose for the route is eliminated by consideration of the notorious difficulties of navigation in the upper reaches of the Red Sea, on which see below p. 896, n. 975. The discovery of Roman and Nabataean pottery on the surface at Maqna has led to the suggestion that this was a small port on the Gulf of Aqaba serving the very large site at El-Badʿ, see P. J. PARR, Exploration archéologique du Hedjaz et de Madian, RB 76.3 (1969), 392; P. J. PARR, G. L. HARDING, and J. E. DAYTON, Preliminary Survey in N.W.Arabia, 1968, BLIA 10 (1971), 30—35, who note that El-Badʿ is one of the largest of all Nabataean sites; see also briefly A. MUSIL, The Northern Hegaz (New York 1926), 112, 120.

[967] The silting-up of the Ptolemaic canal (on which see below p. 943, n. 1179) is an assumption based on Plutarch, Ant. 69.2—3 (Cleopatra proposes to drag her fleet across from the Mediterranean to the Gulf of Suez); cf. Strabo XVII.1.25; cf. F. OERTEL, Das Problem des antiken Suezkanals, in: K. REPGEN and S. SKALWEIT (edd.), Festgabe f. Max Braubach (Münster 1964), 44—46. It may be necessary to alter this assumption if LEWIS' suggestion that P. Oxy. XXXVII.2820 refers to the preparations of Aelius Gallus on the

Red Sea is correct; cf. ll.5—11 (with Lewis' restorations): κ[αὶ] τὸ τῆ̣[ς / Κλεο]πάτρας ναυ[τικὸν] / μετὰ τὸν ἐκε[ίνης] / θάνατον ὥσπ[ε]ρ / εἰκὸς ἐξημελ[η]/μένον πάλιν ἐξ/ήρτυε, see N. Lewis, GRBS 16.3 (1975), 297—298. Lewis himself (ibid., 301, n. 10) simply assumes that the canal was still open but his statements here suggest he is unfamiliar with the problem. On the silting-up of the irrigation system generally in the late Ptolemaic period see H. I. Bell, Roman Egypt from Augustus to Diocletian, CE 13 (1938), 350.

[968] Cf. F. Oertel, in: Festgabe f. Max Braubach, 48—49; so P. J. Sijpesteijn, Der ΠΟΤΑΜΟΣ ΤΡΑΙΑΝΟΣ, Aegyptus 42.3/4 (1962), 81—82. Construction was underway by A.D. 112, see W. Müller, APF 16 (1958), 211, no. 32 (cf. above n. 965).

[969] For the Bithynian canal project see J. Solch, Bithynische Städte im Altertum, Klio 19 (1925), 169—171; F. G. Moore, Three Canal Projects, Roman and Byzantine, AJA 54.1 (1950), 97—111; and A. N. Sherwin-White, The Letters of Pliny (Oxford 1966), 621—625, 646—648, map in fig. 2. There is no reason to connect the building of this canal with any proposed military activity, as does R. Delbrueck, BJ 155/156 (1955—56), 245; cf. F. Oertel, in: Festgabe f. Max Braubach, 48. The canals on the Danube were constructed by Trajan for military purposes in conjunction with the Dacian wars, see L. Possi, Trajan's Column and the Dacian Wars (Ithaca 1971), 32 and the new inscription discussed by J. Šašel, Trajan's Canal at the Iron Gate, JRS 63 (1973), 80—85, pl. IX and figs. 6 and 7 (maps).

[970] The clearest statement about the relative inexpensiveness of water-borne commerce may be found in Pliny, Ep. X.41; cf. Trajan's answer X.42,61 and 62. For date of Pliny's stay in Bithynia see L. Vidman, Étude sur la correspondance de Pline le Jeune avec Trajan (Prague 1960), 26.

[971] Ptolemy, Geog. IV.5.54: Ἡρώων πόλις, δι' ἧς καὶ Βαβυλῶνος πόλεως Τραιανὸς ποταμὸς ῥεῖ. For the papyri mentioning work on the canal see P. J. Sijpesteijn, Aegyptus 42.3/4 (1962), 72—79; cf. PSI I.87; VI.689; P. Oxy. XII.1426; SB V.7676 = P. Cair. Isid. 81 (the earliest of these texts comes from A.D. 297).

[972] Lucian, Alex. 44: ἀναπλεύσας ὁ νεανίσκος εἰς Αἴγυπτον ἄχρι τοῦ Κλύσματος, πλοίου ἀναγομένου ἐπείσθη καὶ αὐτὸς εἰς Ἰνδίαν πλεῦσαι. Most see the canal as being of little importance for the India trade in the Roman period, see, for example, J. Schwartz, Annales (ESC) (1960), 22; F. Oertel, Festschrift Braubach, 45—49.

[973] The traces left by the giant wagons or sledges on the desert routes from the quarries at Mons Claudianus and Mons Porphyrites indicate that these products were shipped up the Nile and not via the Red Sea ports and the Suez Canal; see G. W. Murray, JEA 11 (1925), 148—149 (road from Claudianus to Leucos Limen); so also D. Meredith, JEA 38 (1952), 96—102 (road from Mons Porphyrites to the Nile); and D. Meredith and L. A. Tregenza, Univ. of Egypt. Bull. Fac. of Arts 11.1 (1949), 112—115. For the suggestion that the building of the canal had been intended to facilitate the exploitation of the quarries see J. A. Letronne, Receuil des inscriptions grecques et latines de l'Égypte (Paris 1842), 1.196—197; cf. K. Fitzler, Steinbrüche und Bergwerke, 99, 142—143, who notes that the terrain was easier for hauling the stones in the direction of the Nile; also P. J. Sijpesteijn, Aegyptus 42.3/4 (1962), 80—81.

[974] Strabo XVI.4.23 notes that Aelius Gallus lost much of his large fleet on the voyage from the head of the Gulf of Suez to Leuce Come.

[975] For Myos Hormos and Berenice as the ports for the India trade see below n. 986. For navigation in the Red Sea see Strabo XVII.1.45, who reports that Philadelphus built a road from Coptos to the coast because navigation in the upper reaches of the Red Sea was too dangerous: τοῦτο δὲ πρᾶξαι διὰ τὸ τὴν Ἐρυθρὰν δύσπλουν εἶναι, καὶ μάλιστα τοῖς ἐκ τοῦ μυχοῦ πλοϊζομένοις. ἐφάνη δὴ τῇ πείρᾳ πολὺ τὸ χρήσιμον, καὶ νῦν ὁ Ἰνδικὸς

φόρτος ἅπας καὶ ὁ Ἀράβιος καὶ τοῦ Αἰθιοπικοῦ ὁ τῷ Ἀραβίῳ κόλπῳ κατακομιζόμενος εἰς Κοπτὸν φέρεται καὶ τοῦτ' ἔστιν ἐνπόριον τῶν τοιούτων φορτίων.

[976] B. Bruyère, Fouilles de Clysma-Qolzoum (Suez) 1930—1932 (Cairo 1966), 27—28; C. Küthmann, Die Ostgrenze Ägyptens, Diss. inaug. (Berlin 1911), 4—6. Troops of the *ala veterana Gallica* based at Alexandria (ILS 2543) were despatched to Clusma in A. D. 179 (P. Hamb. 39.51—52 = Rom. Mil. Rec. no. 76.xviii.4,16). Also see CIL III Suppl. 6633 = ILS 657 (306/307).

[977] For the destruction of Coptos see below n. 1721. For the importance of Clusma in the fourth century and later see 'Itinerarium Egeriae', 6, 4. 7, 1—2. (For the dating of Egeria's visit to A. D. 383/384 see P. Devos, La date du voyage d'Egerie, AnalBoll 85 [1967], 188—193). Cf. Petri Diaconi Liber de locis sanctis, p. 116 Geyer: *Clesma autem ipsa in ripa est, id est super mare: nam portus est ibi clausus, qui portus mittit ad Indiam vel excipit venientes naves de India alibi enim nusquam in Romano solo accessum habent naves de India nisi ibi. Naves autem ibi multae et ingentes sunt quare portus et famosus est pro advenientibus ibi mercatoribus de India.*

It is perhaps also not without significance that most of our documentary references to the maintenance of the ancient Nile — Red Sea canal also come from the fourth century. The canal was kept clear by liturgical labour from all of the Chora. The surviving documents attest to the existence of an ἐπιμελητὴς τῆς ἀνακαθάρσεως τῆς αὐτῆς Τραιανῆς διώρυχος, so PSI I. 87 (A. D. 423) and VI.689 (fifth century). Liturgical workers for the canal are also mentioned in P. Oxy. XII.1426 (A. D. 332) and SB V.7676 = P. Cair. Isid. 81 (A. D. 297). The excavations at Clusma, which have yielded important material for the history of the port in the Ptolemaic, Roman and Byzantine periods, tend to confirm the literary evidence. A single bronze coin of Hadrian was found as compared with well over 3,000 bronze and gold coins for the period from the last decades of the third century onward, see B. Bruyère, Fouilles de Clysma-Qolzoum (Suez) 90—94. In general for the use of Clusma in the fourth to sixth centuries see K. Hannestad, Byzantion 25/27 (1955—57), 426 n. 4; cf. N. Pigulewskaja, Byzanz auf den Wegen nach Indien (Berlin 1969), 244—245.

[978] For the Blemmyes in the Eastern Desert see below p. 1061, n. 1722.

[979] For Hadrian's visit see S. Follet, Hadrien en Égypte et en Judée, RPh 3 ser. 42 (1968), 54—77. To the list of Egyptian sources for Hadrian's visit given in 54 n. 4 add P. J. Sijpesteijn, A new Document Concerning Hadrian's Visit to Egypt, Historia 18 (1969), 109—118 = O. Leid. 123; cf. the sceptical remarks of N. Lewis, BASP 8.1 (1971), 19—20. For the founding and numerous privileges of Antinoopolis see H. I. Bell, Antinoopolis: A Hadrianic Foundation in Egypt, JRS 30 (1940), 133—147. Cf. S. Follet, RPh 3 ser. 42 (1968), 59—62, 76—77, who suggests a date of A. D. 134 instead of 130.

[980] For the construction of the Via Hadriana see an inscription of A. D. 137 from Antinoe, OGIS 701 = SB V.8908: 'Ἀδριανὸς . . . ὁδὸν καινὴν 'Ἀδριανὴν ἀπὸ / Βερενίκης εἰς Ἀντινόου διὰ / τόπων ἀσφαλῶν καὶ ὁμαλῶν / παρὰ τὴν Ἐρυθρὰν θάλασσαν / ὑδρεύμασιν ἀφθόνοις καὶ / σταθμοῖς καὶ φρουρίοις δι/ειλημμένην [ἀν]έτεμεν. See comments on this text in E. Miller, Sur une inscription grecque découverte à Cheikh Abad l'ancienne Antinoé, RA n. s. 11 (1870), 313—318. This is the most well-built of all the roads in the Eastern Desert, see G. W. Murray, JEA 11 (1925), 149—150, who indicates that it was little used; D. Meredith, JEA 39 (1953), 101—102.

[981] For this suggestion see G. W. Murray, JEA 11 (1925), 150; C. Préaux, La stabilité de l'Égypte aux deux premiers sieclès de notre ère, CE 31 (1956), 329. The only faint indication of success for such a scheme comes from a metrical epitaph of an Ethiopian (possibly from the Severan period) which alludes to the myth of Bacchus' visit to India: Οἷος μετ' Ἰνδούς ἦλθε μαινόλης θεός / βωμοῖς ἀνήσων αἰνὰ φῦλα βαρβάρων. See C. Schmidt, Eine griechische Grabinschrift aus Antinoe, in: Aegyptiaca. Festschrift G. Ebers (Leipzig 1897), 99—106. The text has been republished a number of times since, see SB V. 8071 and now Bernand, Inscr. Métriques no. 26.

[982] The road is described by G. W. Murray, JEA 11 (1925), 149—150. Today there are no wells on the Wadi Tarfah section of the road. There are some slight indications that traffic from the north may have followed a coastal road along the west side of the Gulf of Suez and turned inland just north of the Wadi Tarfah to join the Via Hadriana. Meredith using Wilkinson's notes reports a monastery with Christian and earlier Nabataean inscriptions with a small Roman station near Bir Abu Darag. Other Nabataean graffiti have been recorded further south at Wadi Umm Dummerana and Bir el-Dakhal; see E. Littmann (with D. Meredith), Nabataean Inscriptions from Egypt, I, BSOAS 15 (1953), 9—11, 14—16.

[983] A number of such officers are attested: CIL IX.3083 = ILS 2699; CIL X.1129 = ILS 2698; CIL VI.32929 = ILS 2700; OGIS 674; CIL III.32 = Bernand, Inscr. du Colosse de Memnon no. 4; CIL III.55 = Bernand, Inscr. du Colosse de Memnon, no. 14; SEG XX.670; CIL III. Suppl. 13580; a further name is added to the list by the Latin inscription from Wadi Menih el-Heir published by D. Meredith, CE 29 (1954), 284—285. See in general J. Lesquier, L'armée romaine d'Egypte, 152—153, 427—428; also M. Rostovtzeff, MDAI(R) 12 (1897), 78—79, 80—81 n. 4, who suggests that this officer had charge only of the roads to Berenice and the coast near this port. So also K. Fitzler, Steinbrüche und Bergwerke, 130; J. F. Gilliam, TAPhA 72 (1941), 165—166; for a comparison with the other *praefecti orae maritimae* of the early empire, see C. G. Starr, Coastal Defence in the Roman World, AJPh 64 (1943), 67.

[984] See the *cursus* of M. Artorius Priscillus Vicasius Sabidianus, CIL VI.32929 = ILS 2700; cf. H. G. Pflaum, Les carrières procuratoriennes, 1.185—186 no. 88. The text of CIL VI.32929 partially reprinted in M. Vandoni, Gli epistrategi nell'Egitto greco-romano (Milan 1972), 51 leaves the mistaken impression that Artorius was *praefectus montis Berenicidis* while simultaneously holding the office of *epistrategus Thebaidos* (cf. P. Brem. 11). For the role of the *praefectus montis Berenicidis* in the exploitation of the mines of the Eastern Desert see the inscriptions cited above n. 963. The ἐπίτροπος ὄρους in IGR I.1179 and 1180 (from Coptos) is the imperial procurator who had charge of the mines of the Eastern Desert after the *praefectus montis Berenicidis* had ceased to exist (cf. IGR I.1256, SEG XVII.601, IGR I.1255 = OGIS 678), not the *praefectus* himself, as Jouguet supposed, see P. Jouguet, BCH 20 (1896), 173.

[985] The only evidence for this is P. Hamb. 7 (c. A.D. 132) τοῦ Β[ε]ρ̣ενείκης νομοῦ. See also P. Jouguet, BIFAO 31 (1931), 26—27, n. 1. Presumably the new nome was placed under the district administered by the *epistrategus* of the Thebaid, who had already had some responsibility over the area in the past; see IGR I.1193 = OGIS 685 = Bernard, Inscr. du Colosse de Memnon, no. 67 with OGIS 674. For the *epistrategi* of the Thebaid in the Roman period see J. D. Thomas, The Theban Administrative District in the Roman Period, JEA 50 (1964), 139—143. The question of an administrative change in the Eastern Desert has become involved in the controversy over the chronological significance of Tacitus, Ann. II. 61.2 which provides an essential clue for the date of that work: (Germanicus) *exin ventum Elephantinen ac Syenen, claustra olim Romani imperii, quod nunc rubrum ad mare patescit.* Various explanations for *rubrum mare* have been proposed: (1) that Trajan's penetration to the Persian Gulf in A.D. 116 is implied, so R. Syme, Tacitus, 2.769; (2) that the annexation of the Nabataean kingdom in A.D. 106 is referred to, so R. Paribeni, Optimus Princeps 2 (Mesine 1927), 14; E. Paratore, Tacito (Milan 1951), 623; J. Beaujeu, REL 38 (1960), 222—225 and most recently G. W. Bowersock, The Greek-Nabataean Bilingual Inscription at Ruwwafa, Saudi Arabia, in: Hommages à Claire Préaux, 518—520; (3) that the phrase refers to the change of the Eastern Desert of Egypt from a military district to nome administration, so K. Meister, Zur Datierung der Annalen des Tacitus und zur Geschichte der Provinz Ägypten, Eranos 46 (1948), 94—122, esp. 109—117 (this latter theory is definitely incorrect); cf. a similar theory in F. J. Presedo, Commentario a Tacito y a Elio Aristides, Habis 2 (1971), 127—136 who connects the Tacitus passage with Roman control of the Dodecaschoenos (cf. above 898). The result of this controversy has been to cast doubt on whether or not P. Hamb. 7 in fact refers to the Red Sea port or to a nome in the Delta.

The increased importance of Berenice may reflect a progressive change of entrepôts paralleled elsewhere. For example, in the Persian Gulf the major entrepôt moved progressively eastwards from Spasinou Charax along the coast, in order, to Siraf, Qais, Hormuz and finally to New Hormuz; see A. LAMB, A Visit to Siraf, an Ancient Port on the Persian Gulf, JMBRAS 37.1 (1964), 2—4, who also suggests a similar movement of the great medieval Malayan port known to Arab geographers as Kalah from Kakhao Island (ninth and tenth centuries) to Pengkalan Bujang (thirteenth and fourteenth centuries). To judge from analogous situations elsewhere in the Roman Empire, the abolition of such a military prefecture signalled the increased pacification and manageability of an area: e.g. Switzerland, E. MEYER, Neuere Forschungsergebnisse zur Geschichte der Schweiz in römischer Zeit, JSGUF 54 (1968/69), 85.

[986] For the poor quality of their harbours see Strabo XVI.4.5 (from Artemidorus); Diodorus III.39.3; cf. Agatharchides frag. 81. For remains of Berenice see J. COUYAT-BARTHOUX, CRAI (1910), 527; D. MEREDITH, Berenice Troglodytica, JEA 43 (1957), 56—70, esp. maps pls. VI & VII. Estimates for the size of Berenice range from 1,000 to 2,000 houses. For Myos Hormos see G. W. MURRAY, JEA 11 (1925), 141—142; C. H. O. SCAIFE, Univ. of Egypt Bull. Fac. of Arts 3.2 (1955), 81—86 with sketch map on p. 83; IDEM, Further Notes on Myos Hormos and Tadnos Fons, ibid., 4.1 (1936), 63—64. All travellers who have visited the port have remarked on the poverty of the remains and the small size of the harbour. For Philoteras see J. COUYAT-BARTHOUX, CRAI (1910), 527; G. W. MURRAY, JEA 11 (1925), 146. For Leucos Limen see J. COUYAT-BARTHOUX, CRAI (1910), 527; G. W. MURRAY, JEA 11 (1925), 142.

[987] The abolishment of Ptolemaic monopolies is attributed to a deliberate policy of Augustus; so A. PIGANIOL, Le statut augustéen de l'Égypte et sa destruction, MH 10.3/4 (1953), 200. Cf. however the stricter regulations by the Romans of contracts drawn up in Demotic. The ultimate consequence was better information for taxation; see H. J. WOLFF, Registration of Conveyances in Ptolemaic Egypt, Aegyptus 28 (1948), 79—82. In general on the social and administrative changes introduced by the Romans see F. ZUCKER, Verfahrensweisen in der Einführung gewisser Einrichtungen des Augustus in Ägypten, RIDA 3 ser. 8 (1961), 155—164; J. MODRZEJEWSKI, La règle de droit dans l'Égypte romaine, in: Proceedings of the Twelfth International Congress of Papyrology, ASP 7 (Toronto 1970), 322—328; cf. N. LEWIS, 'Greco-Roman Egypt': Fact or Fiction?, in: ibid., 3—14 who argues that there was a sharp distinction between Ptolemaic and Roman Egypt; see most recently A. K. BOWMAN, JRS 66 (1976), 160—161 who points out that Egypt has too long been considered a province completely unlike the others.

[988] Strabo in criticizing the account of Eudoxus of Cyzicus given by Posidonius states that this individual would not have been able to leave Egypt if he had stolen some of the cargo brought from India: ἀλλ' οὐδ' ἐξῆν ἄνευ προστάγματος ἐξ 'Αλεξανδρείας ἀνάγεσθαι, καὶ ταῦτα νενοσφισμένῳ βασιλικὰ χρήματα. οὐδέ γε λαθεῖν ἐκπλεύσαντα ἐνεδέχετο, τοσαύτῃ φρουρᾷ κεκλεισμένου τοῦ λιμένος καὶ τῶν ἄλλων ἐξόδων, ὅσην καὶ νῦν ἔτι διαμένουσαν ἔγνωμεν ἡμεῖς ἐπιδημοῦντες τῇ 'Αλεξανδρείᾳ πολὺν χρόνον, καίτοι τὰ νῦν πολὺ ἀνεῖται, 'Ρωμαίων ἐχόντων· αἱ βασιλικαὶ δὲ φρουραὶ πολὺ ἦσαν πικρότεραι (II.3.5). For the Roman period see the Gnomon of the Idios Logos, BGU V § 64: τὰ περὶ τῶν χωρὶς ἀποστόλου ἐκ̣πλεόντων νῦν ἡγεμονικῆς διαγνώσεως [ἐ]γένετο; § 66: οἱ ἐξ[ὸ]ν̣ ἐκπλεῖν ἀναπόστολοι πλέοντες τριτο̣λ̣ογο[ῦντ]αι, . . .; § 68: 'Ρωμ[αῖ]ο[ς ἐκπ]λεύσας μὴ πλήρη τὰ πρὸς ἔκ̣πλ̣ο̣υ̣ν̣ γράμματα [ἐσχ]ηκ̣ὼ̣ς κατεκρίθ[η] ζ[.]. For the use of ἀπόστολος to refer to shipping documents, usually in connexion with the movement of grain, see e.g. SB V.8754 and BGU VIII. 1741, cf. T. REEKMANS and E. VAN'T DACK, CE 27 (1952), 179 for a comparison with ἐπιστολή. For the use of the term in a military sense in a pass see O. Skeat 11 = SB VI. 9118. For the variable meaning of ξενικός in the Ptolemaic period see C. PRÉAUX, Sur les fonctions du πράκτωρ ξενικῶν, CE 20 (1955), 109. A number of Demotic ostraca from the Roman period mention the monthly payment of an 'alien's tax' (*tnj sm-ꜥꜣ*) e.g.: DOBM 43604, 43667 (both from the reign of Tiberius), published in: S. V. WÅNGSTEDT, Einige demotische Urkunden der Ostrakonsammlung im British Museum, OrSuec 12 (1963), 57—59.

[989] For an example of such a document see P. Oxy. X.1271 = ChLA IV.266 which contains a petition from a woman from Side for a permit to leave Egypt via Pharos. The request in Greek is followed by a fragmentary Latin endorsement: Ουαλεριῳ Φιρμῳ επαρχῳ Αιγυπτου παρα Αυρηλιας Μαικιανης Σιδητ(ιδος). βουλομαι, κυριε, εκπλευσαι δια Φαρου· αξιω γραψαι σε τῳ επιτροπῳ της Φαρου απολυσαι με κατα το εθος. Further evidence has come recently in P. Oxy. XLIII.3118 (palaeographically dated to the third century) which is a letter from Corellius Galba (possibly Prefect of Egypt, cf. ChLA IV.266) to the *procurator Phari* giving instructions that a certain individual was not to be permitted to leave Egypt: Κορέλλιος Γάλβας Χ̣ρη̣[σ]τίωνι ἐπιτρόπῳ Φάρου χαίρειν. τὰ γραφέντα μοι ὑ[πὸ] Κ̣λ̣α̣υδίας Φιλο̣ρ̣[ω]μ̣ε̣ας̣ . . . ὑποταγῆναι ἐκέλευσα. σὺ ἐντυχὼν αὐτοῖς φρόντισον ἐπισχεῖν τὴν ἔξοδο̣ν {τ}οῦ φασιν Σεπτιμίου Ἀμμωνίου καὶ τοῖς ἄλλοις οἷ τὰ τοιαῦτα ἐπιτηρο[ῦσιν] ἐπιθέσθαι π[ερὶ] τοῦ ταυ̣τ̣ . . . For the control of the Prefect over emigration see O. W. REINMUTH, The Prefect of Egypt, 32—33. See also the word απολυσον in O. Skeat 11 = Doc. Eser. Rom. no. 5 (third century), an order to a *curator praesidii* to grant a pass or permit to leave the camp to a certain *eques*, cf. the commentary in H. C. YOUTIE, Greek Ostraca from Egypt, TAPhA 81 (1950), 110—111 = Scriptiunculae 1 (Amsterdam 1973), 224—225. Another term for pass, again reminiscent of OGIS 674, occurs in a letter on an ostracon published by P. I. PRICE, Some Roman Ostraca from Egypt, JJP 9/10 (1955/56), 162, no. 2 = SB VI.9272 in which the writer requests καλῶς ποήσεις ἰς τὴν αὔριον λαβεῖν μοι κομ[ι]α̣τ̣ο̣(ν) καταβῆναι καὶ ταχέως ἀνηβαναι . . . ἀλλὰ ἐπίδες σήμερον τὸ πιτάκκιον ἰς τὴν αὔριον. Such a πίττακιον is published as O. Florida 1: ἔχεις δέκα ἡμέρας κομιᾶτεν Ἀμμωνᾶς· ἔχεις δύο ἡμέρας κομιᾶτεν καὶ σοὶ ἀπάγαθαι.

[990] IGR I.1183 = OGIS 674 (A.D. 90): Ἐξ ἐπιταγῆς [......../............] ὅσα δεῖ τοὺς μισθ[ω]/τὰς τοῦ ἐν Κόπτωι ὑποπείπτον/τος τῆι ἀραβαρχίᾳ ἀποστολίου πράσ/σειν κατὰ τὸν γνώμον[α] τῆδε τῆι / στήληι ἐνκεχάρακται διὰ Λουκίου / Ἀντιστίου Ἀσιατικοῦ ἐπάρχου ὄρους Βερενείκης. The restoration of SEYMOUR DE RICCI (APF 2 [1902 — 1903], 437—438 no. 37) of the Prefect's name in the erasure in generally accepted: Ἐξ ἐπιταγῆς [Μεττίου Ῥούφου ἐπάρ/χου Αἰγύπτου]. The same Prefect's name is erased in a recently published inscription from El-Qasr in the Baharich Oasis, G. WAGNER, BIFAO 73 (1973), 190.

See A. STEIN, Die Präfekten von Ägypten in der Römischen Kaiserzeit (Bern 1950), 45. W. UXKULL-GYLLENBAND, Der Gnomon des Idios Logos, p. 64 argued against previous views (see bibliography below), that a tax for the use of the desert roads was involved, and suggested instead that ἀποστόλιον refered to the type of pass mentioned in the Gnomon of the Idios Logos, BGU V § 64 cf. § 68 (texts cited above n. 988). O. W. REINMUTH rejected UXKULL-GYLLENBAND'S explanation because the same term, ἀποστόλιον, applies equally to persons and wagons, CPh 31 (1936), 152 n. 9; but this rejection is based on a misreading of the text. Lines 21 ff which mention charges such as πιττακίου καμήλων do not apply to the charge for ἀποστόλιον, see already WO I.349—350. UXKULL-GYLLENBAND'S interpretation is accepted by S. L. WALLACE, Taxation, 273—274; S. J. DE LAET, Portorium, 329 n. 2; A. C. JOHNSON, Roman Egypt, 593—594; T. PEKARY, Untersuchungen zu den Römischen Reichsstraßen (Bonn 1968), 163—164 who notes in support of UXKULL-GYLLENBAND that tolls for the use of roads are not attested elsewhere in the Roman Empire.

In general on the text (in addition to the above) see HOGARTH, in: W. M. FLINDERS PETRIE, Coptos, 27—33 no. iv (the editio princeps, the commentary contains a number of erroneous interpretations); P. JOUGUET, BCH 20 (1896), 169—177; M. VIGIE, Inscription de Koptos de l'an 90 de notre ère relative à des droits de transit, Société Languedocienne de Géographie 20 (1897), 184—203; M. ROSTOVTZEFF, MDAI(R) 12 (1897), 75—81; IDEM, APF 4 (1907), 309; M. J. LESQUIER, L'armée romaine, 432; L. FIESEL, Geleitszölle im griechisch-römischen Ägypten und im germanisch-romanischen Abendland, Gött. Nachr. (1924), 2.96—103 (gives HOGARTH'S text with S. DE RICCI'S emendations); O. W. REINMUTH, The Prefect of Egypt, 63; S. J. DE LAET, Portorium, 329—330 n. 2, who suggests a comparison with the *vectigal rotare* found in Gaul and Africa, ibid., 428 n. 3; (but since this latter is placed only on vehicles — cf. Dig. XIX.2.60.8 with CIL VIII.10327 = ILS 5874; 10328 — it would correspond only with the charges for a πιττάκιον); N. LEWIS, On Timber and Nile Shipping, TAPhA 91 (1960), 137—138; N. HOHLWEIN, Déplacements et tourisme dans l'Egypte romaine, CE 15 (1940), 255, 264—265.

[991] This was done to isolate the vital Egyptian granary from political tampering; cf. Tacitus, Ann. II.59: *Nam Augustus, inter alia dominationis arcana, vetitis nisi permissu ingredi senatoribus aut equitibus Romanis inlustribus, seposuit Aegyptum ne fame urgueret Italiam quisquis eam provinciam claustraque terrae ac maris quamvis levi praesidio adversum ingentes exercitus insedisset.* But permission for such visits may have been granted to senators who came as tourists, cf. CIL III.74 = ILS 8758 = Inscr. Philae II, no. 147: C. Numonius Vala; for the identification of this man with Numonius Vala the legate of Varus see N. HOHLWEIN, CE 15 (1940), 263; a later tourist, M. Herennius Faustus, is more obliging: he lists his *cursus* and with certainty can be identified as a senator, CIL III.52 = BERNARD, Inscr. du Colosse de Memnon no. 60: *leg(atus) Aug(usti) leg(ionis) XII [Fulminatae].* Cf. the expression *IVSSO LEGATI* on a fragmentary inscription from Wadi Semna published in .L A. TREGENZA, A Latin Inscription from Wadi Semna, Univ. of Egypt. Bull. Fac. of Arts 12.2 (1950), pl. I. The photograph suggests the text should be read: *LEG[A]TI.*

[992] In general on the functioning of this monopoly see M. ROSTOVTZEFF, Zur Geschichte des Ost- und Südhandels im ptolemaïsch-römischen Ägypten, APF 4 (1907/08), 314; T. REIL, Beiträge zur Kenntnis des Gewerbes im hellenistischen Ägypten (Diss. Leipzig 1913), 11, 13—14; A. SCHMIDT, Drogen und Drogenhandel im Altertum, Diss. inaug. Bonn (Cologne 1924), 111—113; A. C. JOHNSON, Roman Egypt, 339—340. The documentary evidence for the monopoly in the Roman period relates only to the leasing or subleasing of the local ἀρωματικὴ ἐργασία: P. Fay. 93 = Chrest. Wilck. 317; P. Fay. 36. For the documentary evidence from the Ptolemaic period see below p. 951, n. 1198. The processing of these imported spices in Alexandria may also have been leased to private contractors, see Pliny, NH XII.59: *at . . . Alexandriae, ubi tura interpolantur nulla satis custodit diligentia officinas! subligaria signantur opifici, persona additur capiti densusve reticulus, nudi emittuntur*; also an alabastron seen on the Cairo antiquities market bearing the inscription: κιννάμωνον / παρὰ Κρινίππου, see M. CLERMONT-GANNEAU, Inscription bilingue minéo-grecque découverte à Délos, CRAI (1908), 558, n. 1. The important distinction between actual state ownership of factories and rigid governmental supervision and control noted by N. LEWIS, BASP 9.3/4 (1972), 68 for the papyrus industry is also relevant in this case.

In a search for analogous situations one inevitably thinks of the famed balsam groves of Judaea (at Jericho and Engeddi) which had originally been part of the royal estates. Pliny NH XII.111—113: *servit nunc haec ac tributa pendit cum sua gente, in totum alia natura quam nostri externique prodiderant* (112); . . . *seritque nunc eum fiscus, nec unquam fuit numerosior* (113). But a number of *unguentaria* bearing the inscription *VECTIGAL PATRIMONI* have been found: e.g. CIL VII.1276; XI.6710.5a, b; XII.5696.19a, b; XIII. 10025.9, 11; XV.6967a, b. See P. BALDACCI, PP 24 (1969), 355—367 who argues that Pliny's use of the term *fiscus* is a reference to the administration of the *ager publicus* at the provincial level which in the reign of Vespasian passed into the hands of the procurators of the *patrimonium*; cf. A. H. M. JONES, JRS 40 (1950), 25; for the view that the balsam plantations were the emperor's private property see F. MILLAR, JRS 53 (1963), 30, cf. rejection by P. BRUNT, JRS 56 (1966), 79. For the possible production of *aromata* on a private estate of the emperor in Egypt, see D. FORABOSCHI, L'ousia Severiana una tenuta 'privata' Romana in Egitto, CE 42 (1967), 176.

[993] Periplus c. 1 (= FRISK, p. 1.1—5): Τῶν ἀποδεδειγμένων ὅρμων τῆς Ἐρυθρᾶς θαλάσσης καὶ τῶν περὶ αὐτὴν ἐμπορίων πρῶτός ἐστιν λιμὴν τῆς Αἰγύπτου Μυὸς ὅρμος, μετὰ δὲ αὐτὸν εἰσπλεόντων ἀπὸ χιλίων ὀκτακοσίων σταδίων ἐν δεξιᾷ ἡ Βερνίκη· ἀμφοτέρων ⟨δὲ⟩ οἱ λιμένες ἐν τῷ ἐσχάτῳ τῆς Αἰγύπτου κόλποι [δὲ] τῆς Ἐρυθρᾶς θαλάσσης κεῖνται; cf. J. A. B. PALMER, Periplus Maris Erythraei: ἐμπόριον νόμιμον and other expressions, CQ n. s. 1 (1951), 157—158 on ἀποδεδειγμένος ὅρμος. There is no evidence that Leucos Limen and Philoteras were used for trade with the East in the Roman Period. MEREDITH mentions

an unpublished ostracon from El-Heita station on the Myos Hormos road which contains the phrase ἀπὸ Τόου, which he suggests may refer to the Egyptian name Duau or Taou of Leucos Limen; see D. Meredith, CE 31 (1956), 360.

[994] Cf. Pliny's rhetorical exaggeration in NH XII.83: *periti rerum adseverant non ferre tantum annuo fetu quantum Nero princeps novissimo Poppaeae suae die concremaverit.*

[995] Silk became increasingly important (particularly when dyed purple) as a symbol of the imperial dignity and office. For this development see A. Alföldi, Die monarchische Repräsentation im römischen Kaiserreiche (Darmstadt 1970), 168—183. Hence eventually Justinian established an imperial monopoly on the textile, see R. S. Lopez, Speculum 20.1 (1945), 10—16; D. Simon, Die Byzantinischen Seidenzünfte, BZ 68.1 (1975), 41—44. For state textile workshops see J. P. Wild, The Gynaeceum at Venta and its Context, Latomus 26.3 (1967), 648—662.

[996] A seal purchased in Cairo bears the inscription ἀρωματικῆς τῶν κυρίων Καισάρων; published in M. Rostovtzeff, Das Patrimonium und die Ratio Thesaurorum, MDAI(R) 13 (1898), 121—122 and explained by Rostovtzeff as coming from the sealed bundles of aromata purchased from merchants for use at the Imperial court. A second seal of the time of Marcus Aurelius from Heracleopolis Magna was published by Seymour de Ricci, APF 2 (1902), 443, no. 63: 'Αρωματικῆς 'Αντωνίνου Καίσαρος τοῦ κυρίου. Both seals are republished as IGR 1375—1376; cf. also on these U. Wilcken, APF 3 (1903—1906), 192—193; T. Reil, Beiträge, 14; A. Persson, Staat und Manufakturen im römischen Reiche (Lund 1923), 19, 36—37; A. Schmidt, Drogen, 90; E. H. Warmington, Commerce², 390; A. C. Johnson, Roman Egypt, 331; H. J. Loane, Vespasian's Spice Market and Tribute in Kind, CPh 39.1 (1944), 13. Presumably the intent of the seal was to ensure that goods designated as imperial property could pass duty-free at the various toll-stations; cf. the recently published seal with name of the city of Ephesus, T. Gerasimov, Zollplombe mit dem Namen der Stadt Ephesus in Kleinasien, IAI 34 (1974), 319, but if this was the intent it is curious that it is not as explicitly stated as on the medicated wine shipped to a legion in Aquincum, AE (1933) 120: *immune in r(ationem) val(etudinarii) leg(ionis) II Adi(utricis)*, cf. R. W. Davies, The Roman Military Medical Service, SJ 27 (1970), 92. Cf. on the aromata seals from Egypt also H. J. Loane, Industry and Commerce of the City of Rome (50 B.C.—200 A.D.), Diss. Johns Hopkins Univ. (Baltimore 1938), 139—140; E. H. Warmington, Commerce², 390; E. Leider, Alexandreia, 16 (seals mark *aromata* from imperial factories). Most of those who have discussed the seals see them as goods collected in kind as a tax on spice merchants. Further evidence for the collection of taxes on oriental goods in kind may also be seen in an ostracon found at Pselkis: O. Bodl. II.2042 (full text cited above n. 899) mentions οἱ λυποὶ ἐπι/τηρητ(αὶ) εἰδῶ[ν ἄνω (?) τ̣ό]που τ̣ῆ̣ς ι̅β̅ σχοίνο(υ) 'Ι̣ν̣[δ]ικ(ῆς) θ̣α̣λ̣ά̣σ̣σ̣[ης. A similar tax is also attested in the harbour of Syene, WO II. 262 (A. D. 168): [μισθ(ωταὶ)] / εἴδο⟨υ⟩ς ὁρμοφυλ[ακίας . . . . . .]; WO II. 263; 274 (A. D. 185); 277 (A. D. 187/188), cf. WO I. pp. 273—274 and C. Préaux, CE 26 (1951), 154. The omission of καὶ in O. Bodl. II. 2042 is not unusual, cf. OGIS 210: στρ(ατηγὸς) 'Ομβ(ίτου) 'Ελεφ(αντίνης).

For the *horrea piperataria* at Rome see H. J. Loane, Industry and Commerce of the City of Rome, 137—141; Idem, CPh 39.1 (1944), 10—21 (dating the *horrea* to the time of Vespasian). It is uncertain how the *fiscus* marketed surplus products which the court and the bureaucracy did not consume; cf. H. J. Loane, CPh 39.1 (1944), 20—21 who cited the analogous situation of the sale of surplus grain. For the imperial *horrea* in Alexandria and the *procurator Neas poleos et Mausolei* see U. Wilcken, Zum Germanicus-Papyrus, Hermes 63 (1928), 59—60. Further information for the sale of such surplus grain has come in an inscription of the second century from the agora at Ephesus. This fragmentary document grants the emperor's permission for the city to purchase grain in Egypt after the needs of Rome have been satisfied, see M. Wörrle, Ägyptisches Getreide für Ephesos, Chiron 1 (1971), 325—340.

The problem of the collection of taxes in kind on various commodities in Egypt is related to our understanding of the terminus technicus, *anabolicum*. The major source is HA

Aurelian 45.1: *Vectigal ex Aegypto urbi Romae Aurelianus vitri, chartae, lini, stuppae, atque anabolicas species aeternas constituit.* The earliest reference to the term is in the edict of Tiberius Julius Alexander: ὡς / συμβεβληκότων τισὶν ἀναβολικὰ εἰληφόσ[ι] ἐκ τοῦ φίσκου ἤ⟨ι⟩ στρατηγοῖς ἤ⟨ι⟩ πραγματικοῖς ἢι ἄλλοις τῶν προσοφειλ̣ηκότων τῶι δημοσίωι λόγωι. (SEG XVI.861.20—21); cf. also two lead *tesserae*, one from the Martinetti collection, the other from the Cabinet des Médailles, of the time of Septimius Severus which bear the inscription ANABOΛICI; see M. Rostovtzeff, Anabolicum, MDAI(R) 11.4 (1896), 317—318. See the discussion of the term in A. d'Ors, P. Ryl. 654 y el 'Anabolicum', in: Studi in onore di Ugo Enrico Paoli (Florence 1956), 259—267, and R. MacMullen, The Anabolicae Species, Aegyptus 38 (1958), 184—198, who both argue that the term applies only to textiles.

[997] For the money taxes levied on various trades and professions see WO I.321—333; S. L. Wallace, Taxation, 181—237; E. Wipszycka, Les impôts professionnels et la structure de l'industrie dans l'Égypte romaine. A propos de la κοπὴ τριχός, JJP 16/17 (1971), 126—130.
For the papyrus industry in Roman Egypt see now N. Lewis, Papyrus in Classical Antiquity (Oxford 1974), 107—129, esp. 121—127, who rejects earlier views about the existence of an imperial monopoly on papyrus. The textile industry in the Ptolemaic and Roman periods is particularly well documented for the Chora; see C. Préaux, L'économie royale, 93—116; M. Rostovtzeff, SEHHW, 1.305—308; Idem, A Large Estate, 116—117; S. Calderini, Ricerche sull'industria e il commercio dei tessuti in Egitto, Aegyptus 26 (1946), 13—83; E. H. Brewster, A Weaver of Oxyrhynchus, TAPhA 58 (1927), 132—154; E. Wipszycka, The ὠρέα of Apollonios the Dioektes in the Memphitic Nome, Klio N.F. 39 (1961), 185—190; Idem, L'industrie textile, passim; Idem, Das Textilhandwerk und der Staat im Römischen Ägypten, APF 18 (1966), 1—22; W. Müller, Sklaven in der Textilindustrie des Ptolemäischen Ägypten, in: Acta Antiqua Philippopolitana 27—31 = SB X.10209, cf. N. Lewis, Notationes Legentis, BASP 11.2/4 (1974), 49. The largest collection of documents is M. V. Biscottini, L'archivio di Tryphon, tessitore di Oxyrhynchos, Aegyptus 46 (1966), 60—90, 186—292 = SB X.10234—10249; P. Oxy. II.320 = SB X.10248 from the archive is republished with commentary by J. D. Thomas, A Re-edition of P. Oxy. II.320, ZPE 16.3 (1975), 309—314. Four further documents relating to weaving (tax receipts and an apprenticeship contract) were published by J. G. Keenan and J. C. Shelton, Four Papyri from the Second Century, ZPE 7.2 (1971), 173—182, nos. 1—4. For the glass industry of Roman Egypt see above p. 633.

[998] The scale of operations in the textile industry may be suggested by a list of women (slaves ?) who worked in a weaving establishment of considerable size, see the Berlin papyrus published by W. Müller, in: Acta Antiqua Philippopolitana 29—32 = SB X. 10209. The more usual form of enterprise in the textile industry was, however, cottage production. Seasonal or part-time participation in a trade may also have been of some significance, see E. Wipszycka, JJP 16/17 (1971), 123—124.

[999] For the export of wine to Arabia, East Africa and India see Periplus c. 6 (= Frisk, p. 2. 32—33), Laodicean and Italian wine imported into the Axumite kingdom; c. 7 (= Frisk, p. 3.16—17) sour grape juice from Diopolis imported into Avalites; c. 17 (= Frisk, p.6.16) wine imported in Rhapta; c. 24 (= Frisk, p. 8.5—6) wine to Muza; c. 28 (= Frisk, p. 9. 13) wine to Qana; c. 39 (= Frisk, p. 13.9) wine to Barbaricum; c. 49 (= Frisk, p. 16. 20—21) Italian and Laodicean wine imported into Barygaza; c. 56 (= Frisk, p. 18.20) wine to Nelcynda. The ostraca from the Nicanor archive confirm the shipment of these types of wine to the Red Sea ports, Laodicean: O. Petr. 241, 289, 290 (also O. Stras. 788 which does not belong to this group); Campanian, i.e. Aminnoian wines: O. Petr. 224, 240. Yeo argued that the export of Italian wine to East Africa and India indicated that the 'Periplus' is a work of the first century of our era, C. A. Yeo, The Development of the Roman Plantation and Marketing of Farm Products, Finanzarchiv N. F. 13 (1951/52), 338—340; cf. P. Iand. VI.99 with new edition published by H. Geremek, P. Iandana 99: Italian Wines in Egypt, JJP 16/17 (1971), 160—161 who dates the document to the early third cen-

tury by identifying Calpurnius with a man of the same name in P. Oxy XIV.1764 and suggests (pp. 169—170) that the continued flow of Laodicean and Italian wines into Egypt confirms Pirenne's third century date for the 'Periplus'. Aminnoian wine appears in a still later document: O. Mich. 250 (third/fourth centuries). For wine trade and production in Ptolemaic and Roman Egypt see M. Rostovtzeff, A Large Estate, 100—103; Idem, Kolonate, 14—15, 38; Idem, SEHHW 1.353—355; C. Préaux, L'économie royale, 171—187; J. A. S. Evans and C. B. Welles, The Archives of Zeon, JJP 7/8 (1953/54), 30—35, 53—70 (P. Yale inv. 1641 = SB VI.9256 = P. Yale 40, c. 240—220 B.C.); P. Collart and P. Jouguet, Petites recherches sur l'économie politique des Lagides, in: Raccolta Lumbroso (Milan 1925), 121—126; M. R. Rémondon, Commerce de vins italiens à l'époque des Sévères d'après le Pap. Iandana VI.99, REG 78 (1965), xxviii—xxix. For the business affairs of an Egyptian wine merchant see P. Oxy. XII.2342; cf. B. A. van Groningen, Quelques notes sur le papyrus Oxyrhynchus XXII.2342, CE 32 (1957), 348—351.

[1000] For the metal industries of Alexandria see above p. 762, n. 508. The 'Periplus' frequently lists textiles as an import at various ports on the Indian Ocean littoral: c. 6 (= Frisk, p. 2.23—25) at Adulis: Προχωρεῖ δὲ εἰς τοὺς τόπους τούτους ἱμάτια Βαρβαρικὰ ἄγναφα τὰ ἐν Αἰγύπτῳ γινόμενα, Ἀρσινοϊτικαὶ στολαὶ καὶ ἀβόλλαι νόθοι χρωμάτινοι καὶ λέντια καὶ δικρόσσια; c. 7 (= Frisk, p. 3.17) at Avalites: ἱμάτια Βαρβαρικὰ σύμμικτα γεγναμμένα; c. 8 (= Frisk, p. 3.27—28) at Malao: πλείονες χιτῶνες, σάγοι Ἀρσινοϊτικοὶ γεγναμμένοι καὶ βεβαμμένοι; c. 24 (= Frisk, p. 8.2—5) at Muza: πορφύρα διάφορος καὶ χυδαία καὶ ἱματισμὸς Ἀραβικὸς χειριδωτός, ὅ τε ἁπλοῦς καὶ ὁ κοινὸς καὶ σκοτουλᾶτος καὶ διάχρυσος, . . . καὶ ὀθόνιον καὶ ἀβόλλαι καὶ λώδικες οὐ πολλαί, ἁπλοῖ τε καὶ ἐντόπιοι, ζῶναι σκιωταὶ . . . (for σκοτουλᾶτος in this passage see J. P. Wild, The Textile Term *scutulatus*, CQ n.s. 14 [1964], 263—264, 266). In the third century Arsinoe was still a major linen producing centre, cf. P. Amh. I.3(a) = Chrest. Wilck. 126 which refers to the purchase of linen there with the intention of selling it in Alexandria, see the re-edition of the text with commentary by H. Musurillo, Early Christian Economy. A Reconsideration of P. Amherst 3(a) (= Wilcken, Chrest. 126), CE 31 (1956), 124—134 = SB VI.9557. One quarter of the town, in fact, derived its name from this industry, cf. the reference to several houses as ἐπ' ἀμφόδου Λινυφίων in C. A. Nelson, Census Returns from Arsinoe, ZPE 9.3 (1972), 255—256, no. 3 (A.D. 203); see also on this quarter C. Wessely, Die Stadt Arsinoe (Krokodilopolis) in griechischer Zeit, SAWW 145.4 (1903), 30.

[1001] For a discussion of the problem of the various figures given by our sources for the annual revenues yielded by Egypt see WO I.412—421. Although the wealth of the province undeniably lay in its agricultural potential, Strabo implies that the revenues from oriental commerce were not an inconsequential portion of the total yield (XVII. 1. 13): τῆς Αἰγύπτου δὲ τὰς προσόδους ἔν τινι λόγῳ Κικέρων φράζει, φήσας κατ' ἐνιαυτὸν τῷ τῆς Κλεοπάτρας πατρὶ τῷ Αὐλητῇ προσφέρεσθαι φόρον ταλάντων μυρίων δισχιλίων πεντακοσίων. ὅπου οὖν ὁ κάκιστα καὶ ῥᾳθυμότατα τὴν βασιλείαν διοικῶν τοσαῦτα προσωδεύετο, τί χρὴ νομίσαι τὰ νῦν, διὰ τοσαύτης ἐπιμελείας οἰκονομούμενα καὶ τῶν Ἰνδικῶν ἐμποριῶν καὶ τῶν Τρωγλοδυτικῶν ἐπηυξημένων ἐπὶ τοσοῦτον; For a high estimate of the proportion of the total revenues derived from duties at the frontiers, see A. Andréadès, in: Mélanges Glotz, 1.8—10, 39—41. The economically strategic importance of Egypt continued through the third century when Philip, Aurelian and Probus all attempted to introduce much needed reforms so that the province would continue to yield large revenues, see P. J. Parsons, Philippus Arabs and Egypt, JRS 57 (1967), 140—141.

IV

[1002] Cf. the major reviews: E. W. Gray, JRS 60 (1970), 322—324; J. Rougé, Latomus 29 (1970), 536—540; P. Grimal, REL 47 (1969), 665—667.

[1003] See discussion below, particularly Miller's views on the cinnamon trade and on the currency drain from the Roman Empire.

[1004] As argued by E. H. Warmington, Commerce^2, 164—165.

[1005] See the ivory exports from various ports in Periplus c. 3 (= Frisk, p. 1.17) from Ptolemais Epitheras; c. 4 (= Frisk, p. 2.6—13) from Adulis and the inland regions beyond the Nile; c. 6 (= Frisk, p. 3.4); c. 10 (= Frisk, p. 4.12) from Mosyllum; c. 16 (= Frisk, p. 6.5) from Rhapta; cf. for India c. 49 (= Frisk, p. 16.29) from Barygaza; c. 56 (= Frisk, p. 18.24). For the Rhapta ivory trade in the Roman period see G. S. P. Freeman-Grenville, The Medieval History of the Coast of Tanganyika (Oxford 1962), 25—26; cf. B. A. Datoo, Rhapta: The Location and Importance of East Africa's First Port, Azania 5 (1970), 73—74. In the palace of Queen Amanishakhete (cf. above for date) excavated at Wadi-ban-Naga a storeroom was found to contain a supply of elephant tusks and decayed wood (possibly ebony), J. Vercoutter, Syria 39 (1962), 280, pl. XX.b. The same palace yielded a small stone statue of an anthropomorphic god with an elephant's head; ibid., 285, fig. 14. But representations of elephants are rare at Meroitic sites. A small ivory amulet in the shape of an elephant was found at El-Kurru, The Royal Cemeteries of Kush, 1. El Kurru, 29, fig. 11f.; see also the graffito published by I. Hofmann, Eine Neue Elefantengott-Darstellung aus dem Sudan, JEA 58 (1972), 245—247; cf. below n. 1258. Such rock drawings of elephants are, however, relatively rare in the Meroitic region. There were none among the numerous drawings of animals in the quarries of Umm Ali and only one in the Great Enclosure at Musawarat es-Safra, see F. Hintze, Kush 7 (1959), 174, 182.

[1006] For the West African ivory trade in the Roman period see S. Aurigemma, L'elefante di Leptis Magna e il commercio dell'avorio e delle *Ferae Libycae* negli *Emporia* Tripolitani, Africa Italiana 7 (1940), 67—86. The mosaic of Sabrata in the Piazzale delle Corporazioni at Ostia depicts an elephant and the inscription *stat(io) Sabratensium*, see R. Meiggs, Roman Ostia^2, 283, pl. XXIII.a. Also on the trade of Sabrata with Fezzan see P. Huard, BIFAN ser. B. 22.1/2 (1960), 140.

[1007] Pliny, NH XXXIV.145: *ex omnibus autem generibus palma Serica ferro est; Seres hoc cum vestibus suis pellibusque mittunt.* For Chera as the source see W. H. Schoff, The Eastern Iron Trade of the Roman Empire, JAOS 35 (1915), 230—237; G. F. Hudson, Europe and China, 93; D. B. Singh, Iron in Ancient India, JESHO 5 (1962), 216; R. J. Forbes, Studies in Ancient Technology, 9 (Leiden 1964), 239—240; B.R. Subrahmanyam, Appearance and Spread of Iron in India — an Appraisal of Archaeological Data, JOIB 13.4 (1964), 349—357; D. D. Kosambi, The Beginning of the Iron Age in India, JESHO 6 (1963), 309—318; E. H. Warmington, Commerce^2, 257—258.

[1008] For the advent of iron in southern India see below n. 1530.

[1009] E. H. Warmington, Commerce^2, 257—258 suggests that the word στόμωμα is used in the papyri to designate imported Seric iron.

[1010] For steel in Egypt see chemical analysis in A. Lucas, Ancient Egyptian Materials, 242. In general on ancient knowledge about steel production see U. Täckholm, Studien über den Bergbau, 77, 80—84; for an examination of a knife-blade of high quality carbon steel from Cyprus c. 1100 B.C. see E. Tholander, Evidence of the use of Carbonized Steel and Quench Hardening in Late Bronze Age Cyprus, OpAthen 10.3 (1971), 17—22. For a recent analysis of early Egyptian steel specimens see A. R. Williams and K. R. Maxwell-Hyslop, Ancient Steel from Egypt, JArchSc 3.4 (1976), 283—305. For India see S. K. Maity, Economic Life in Northern India in the Gupta Period^2 (Delphi 1970), 135—136 on the famous Mahavauli iron pillar usually attributed to Chandragupta II. Iron implements from Ceylon, c. fifth century of the present era, upon examination revealed that carbonization was confined primarily to the surface, see R. Hadfield, Sinhalese Iron and Steel of Ancient Origin, JISI 85.1 (1912), 134—186.

[1011] For production of cast iron in ancient China see T. T. Read, Chinese Iron — A Puzzle, HJAS 2 (1937), 398—407; Idem, Metallurgical Fallacies in Archaeological Literature, AJA 38 (1934), 388—389. A large iron foundry of the Former Han period has been excavated at T'ieh-sheng-kou, Honan. Included among the finds were 17 smelting furnaces, a melting furnace, a low-temperature roasting oven, ore-dressing grounds, and pits for casting. Coal and charcoal were also found: see publication of the excavation in 'K'ung hsien T'ieh-sheng kou' (Peking 1962); cf. RBS (1962), no. 374; see now Li Chung, The Development of Iron and Steel Technology in Ancient China, KKHP (1975), no. 2.1—22, Eng. sum. 21—22 who mentions examples of Chinese cast iron from the fourth century B.C. It is interesting that Schoff, with whom the theory here under discussion originated, wrote before much was known about the Chinese iron age and he had a low opinion of Chinese metallurgy: "fine iron-working in China is of relatively recent development," W. H. Schoff, JAOS 35 (1915), 226.

[1012] For production of cast iron among the Hsiung-nu: S. I. Rudenko, Kultur d. Hsiung-nu, 52; cf. also above p. 701, n. 125.

[1013] The pertinent source material is collected in J. I. Miller, Spice Trade, 34—42, 47—67, 69—71, 80—86.

[1014] So J. I. Miller, Spice Trade, 87. Miller's efforts to document this from the 'Periplus' are unsuccessful. As elsewhere in the Middle East, sesame grew in India: Periplus c. 41 (= Frisk, p. 14. 4—6): Πολυφόρος δὲ ἡ χώρα σίτου καὶ ὀρύζης καὶ ἐλαίου σησαμίνου καὶ βουτύρου καὶ καρπάσου καὶ τῶν ἐξ αὐτῆς Ἰνδικῶν ὀθονίων τῶν χυδαίων. But it is not mentioned as an export in Roman vessels, although it was imported on Indian ships to East Africa: c. 14 (= Frisk, p. 5.11). The cultivation of sesame was introduced into Burma from India early in the present era, G. H. Luce, Economic Life of the Early Burman, JBRS 30.1 (1940), 293.

[1015] See P. Rev. 57—72; cf. U. Wilcken, Grundzüge, 241—244; F. Heichelheim, s. v. 'Monopole', RE XVI.1 (1933), 165—170; J. Bingen, Les collones 60—72 du P. Revenue Laws et l'aspect fiscal du monopole des huiles, CE 21 (1946), 127—148; C. Préaux, Sur les origines des monopoles Lagides, CE 29 (1954), 322—323; J. W. Wickersham, The Financial Prospects of Ptolemaic Oilmen, BASP 7 (1970), 45—51.

[1016] Almost all papyrological references to σήσαμον are from the third century B. C., e. g., O. Theb. 7; P. Bon. 1. ii.v; P. Cairo Zen. V.59816, 59850; P. Col. Zen. I.33,53; II.69,78, 116c; P. Hamb. I.24; P. Hib. I.119; II.245,247; P. Lille 5,9,26,43; P. Magd. 1,5; P. Petrie III.75,84,125; PSI IV.351,423; V.500,502,522; P. Ryl. 571; SB VI.9522; P. Sorb. 32.

[1017] For discussion of fluctuations in production see J. P. Mahaffy, On New Papyrus-Fragments from the Ashmolean Museum at Oxford, Trans. Roy. Ir. Acad. 31 (1897), 205—206; M. Rostovtzeff, A Large Estate, 77; D. J. Crawford, Kerkeosiris: An Egyptian Village in the Ptolemaic Period (Cambridge 1971), 114, and esp. Idem, The Opium Poppy, a Study of Ptolemaic Agriculture, in: Problèmes de la terre en Grèce ancienne, ed. M. I. Finley, (Paris 1973), 229—251 on the prejudice against cash-crops.

[1018] For post third-century references to sesame production in Egypt see WO II. 1520 (136/5 B. C.); 763 (9 B. C.) and the τέλος] σησ(άμου) in O. Bodl. 1714 of the second century of our era. O. Giss. 22 mentions the delivery of 3 3/4 artabas sesame seed εἰς θησ(αυρὸν) Μεμνο(νείων) (A.D. 110), see P. J. Sijpesteijn, Einige Ostraka der Giessener Ostrakasammlung, JJP 16/17 (1971), 100.

[1019] F. Heichelheim, Roman Syria, ESAR 4.132.

[1020] Strabo XVI.1.14; Herodotus I.193; and F. Heichelheim, ESAR 4.132, n. 53; cf. H. Helbaek, The Plant Remains, in: M. E. L. Mallowan, Nimrud and its Remains (London 1966) 2.616—617. The Babylonian Talmud depicts sesame as the major oil-producing plant in Babylonia, see S. Funk, Die Juden in Babylonia 200—500, 14.

[1021] As assumed by J. I. Miller, Spice Trade, 87; E. H. Warmington, Commerce^2, 40; cf. 206 where W. is more cautious.

[1022] J. I. MILLER, Spice Trade, 71—73 argues at length that the ancient substance named κάρδαμον is the same as the modern Malabar cardamom. He concludes that the references in our sources to a spice of this name as coming from Arabia refer to the transhipment point rather than the point of origin. So also BERENDES, Die Arzneimittellehre des Dioskurides, 27—28.

[1023] Κάρδαμον was grown in the Memphite nome in the third century B.C.; cf. the seed account in P. Cairo Zen. II.59292. On this account see D. J. CRAWFORD, in: M. I. FINLEY (ed.), Problèmes de la terre en Grèce ancienne, 241. For the location of the towns mentioned in the text in the Memphite nome see J. YOYOTTE, Études géographiques II, Revue d'Égyptologie 14 (1962), 75—111. In P. Oxy. XII.1428 = C. P. Jud. III.477 (A.D. 300) Aurelius Macrobius μισθωτ(ὴς) ἀσχολ(ήματος) στυπτηρίας sends alum and κάρδαμον (the editors translate „nasturtium powder") to Aurelius Isaac. It is uncertain if the association of the two substances indicates that κάρδαμον, too, was a government monopoly. For the alum monopoly cf. BGU III. 697 = Chrest. Wilck. 321 (A. D. 145). For κάρδαμον see also P. Stras. 222.

[1024] E. H. WARMINGTON, Commerce², 210—212; M. ROSTOVTZEFF, SEHRE², 1.93; R. PFISTER, L'introduction du coton en Égypte musulmane, RAA 11.3 (1937), 167, 171—172; J. I. MILLER, Spice Trade, 193—200. On cotton in ancient India see D. SCHLINGLOFF, Cotton-Manufacture in Ancient India, JESHO 17 (1974), 81—90. Cotton is introduced much later into China than to the West, cf. the literary evidence collected by L. C. GOODRICH, Cotton in China, Isis 34 (1943), 408—410. The earliest Chinese archaeological finds of cotton came from the Tarim Basin, where Indian influence was strong, and predate the earliest literary evidence: a silk coat with a cotton lining was found in a post-Han grave (no. 10) by "the Small River" near Lou-lan, F. BERGMAN, Archaeological Researches in Sinkiang, 57, cf. V. SYLWAN, Investigation of Silk, 73 and 88, who suggests a T'ang date. STEIN reported several finds of cotton, e.g. Innermost Asia 1. p. 247, no. L.C. 06. c—d, p. 256 L.C.V. 016, 024; cf. R. PFISTER, Textiles de Palmyre, 3.64, n. 1, who examined all of these textiles and concluded that they are wool.

[1025] So E. H. WARMINGTON, Commerce², 210—211; Pliny, NH XIX.14—15: *superior pars Aegypti in Arabiam vergens gignit fruticem quem aliqui gossypion vocant, plures xylon et ideo lina inde facto xylina . . .. nec ulla sunt cum candore molliora pexiorave. vestes inde sacerdotibus Aegypti gratissumae.* NH XII.38—39: *eiusdem insulae (Tyros) excelsiore suggestu lanigerae arbores alio modo quam Serum; . . . ferunt mali cotonei amplitudine cucurbitas quae maturitate ruptae ostendunt lanuginis pilas ex quibus vestes pretioso linteo faciunt. arborem vocant gossypinum fertiliore etiam Tyro minore, quae distat x̄ p. Iuba circa fruticem lanugines esse tradit, linteaque ea Indicis praestantiora,* . . . NH XIII.90: *Aethiopia Aegypto contermina insignes arbores non fere habet praeter laniferam, qualis Indorum atque Arabiae dicta est. propior tamen huic natura lanae maiorque folliculus granati modo mali, similesque et inter se arbores ipsae.* Cf. also Pollux 7.75: ἤδη δὲ καὶ παρ' Αἰγυπτίοις ἀπὸ ξύλου τι ἔριον γίνεται, ἐξ οὗ τὴν ἐσθῆτα λινῇ μᾶλλον ἄν τις φαίη προσεοικέναι, πλὴν τὸ πάχος . . . ἔνδοθεν ἐκαιρεῖται τὸ ὥσπερ ἔριον, ἀφ' οὗ κρόκη γίνεται; For Bahrein see Theophrastus, HP IV. 7. 7, 8. See also the claim of Sennacherib (704—681 B. C.) in OIP 2. 116. viii. 64 that in his garden grew „the trees bearing wool" which „people pluck and weave into clothing". Cf. the suggestion that *tīmu* in Uruk tablets refers to Egyptian cotton imported into Mesopotamia, see L. OPPENHEIM, JCS 21 (1967), 248, 251—252. See also G. GOOSSENS, Le coton en Assyrie, AIPHOS 12 (1952), 167—176 who sees India as the ultimate source of Sennacherib's cotton. Chou-shu 50.17a mentions white cotton cloth as a major product of *T'iao-chih* (Mesopotamia?), see R. A. MILLER, Accounts of Western Nations in the History of the Northern Chou Dynasty (Berkeley 1959), 15.

[1026] For the meaning of *qṭn* in Aramaic documents see G. R. DRIVER, The Aramaic Papyri from Egypt: Notes on Obscure Passages, JRAS (1932), 78—79; cf. commentary on ***ktn*** in a late fifth century Aramaic letter from Egypt: R. G. DRIVER, Aramaic Documents of the Fifth Century B.C. (Oxford 1954), pp. 35—36 no. XIII.3. The word also occurs in

reference to local crops in Aramaic papyri from the Achaemenid period found in the recent excavations at Saqqara. I would like to express my gratitude to Professor J. B. SEGAL of the School of Oriental and African Studies, University of London, for making this information available to me. A brief account of these documents appears in J. B. SEGAL, The Saqqara Papyri: The Aramaic Papyri, in: Proceedings of the XIV International Congress of Papyrologists, Oxford 24—31 July, 1974 (Oxford 1975), 252—255; cf. the reference to the growing of cotton in a Thamudic inscription from Barq el-Riba in A. VAN DEN BRANDEN, Les textes thamoudéens de Philby (Louvain 1956), Ph. 271 (ai): *b-n-h-y h-q-w-r:* "By the grace of Nagy is the new cotton."
This new evidence tends to confirm the statement in F. HEICHELHEIM, AEH 2.112 about the growing of cotton in Egypt in the Achaemenid period. This was criticized by M. MEULEAU, JESHO 8 (1965), 69, who maintained that no evidence existed to confirm HEICHELHEIM's views. Another word occasionally used for cotton, e. g. Strabo XV.1.20 and Theophrastus, HP IV.7.7, is also of Semitic origin — σινδών; see E. MASSON, Recherches sur les plus anciens emprunts sémitiques en grec (Paris 1967), 25—26; cf. R. RÉMONDON, Autour de quelques termes du P. Fouad inédit inv. no. 45, CE 27 (1952), 200—202.

[1027] P. Iand. VII. 142 (A. D. 164/165) is an ἐπίσκεψις of farms and the products they yield: col. ii. 8: ἄλ(λου) τόπ(ου) γεωργ(ουμένου) ὑπὸ Ψενατ(ύμιος) υ̣ἱοῦ ἄλ(λου) μητ(ρὸς) . [. . . .]ο( ) ἐ[ν] ᾧ̣ ἐλ(άϊνα) φυτ(ὰ) γ̣ κ(αὶ) φοί(νικες) κ(αὶ) ἐρεόξυλ(α) κ(αὶ) ἐρ̣ι̣κ̣(ια ?).

[1028] These were published with commentary by J. G. WINTER and H. C. YOUTIE, Cotton in Graeco-Roman Egypt, AJPh 65 (1944), 249—258 = SB VI.9026. This document seems to imply that cotton was used for quite common clothing: πά[ν]τῃ πάντως μοι πεμψῃς τῷ ἀγωγίῳ / τούτῳ ἐριοξύλου δραχμὰς εἴκοσι σπουδαίας κρό/κης. ἀλλ' ὅρα μὴ ἀμελήσῃς ἐπεὶ οἱ ἀδελφοί σου ἐπεν/δύτην οὐκ ἔχουσι ἐκτριβέντων τῶν ἐριοξύλων αὐτῶν, καὶ χρείαν ἔχουσι ὡς οἶδας καθὰ / πάντοτε ἐν ἀγρῷ διατρείβουσι. See also P. Lond. III. 928, a customs schedule (third century; cf. BL I. p. 288) and P. Mich. VIII.500, a letter (early second century) written by Rullius to Apollinarius, who was in Rome at the time, mentions a shipment of white cotton from that city to Egypt: τὰ ἐρει[ό]ξυλα τὰ λευκά . . . . πέμψον. For the letters of Apollinarius see E. M. HUSSELMAN, P. Mich. IX, pp. 6—8 and below n. 1458. The meaning of κιαρβασᾶις in BGU I.10 and κερβᾶσις is uncertain; cf. WO I.380. WARMINGTON suggests that cotton may frequently be refered to as βύσσος, E. H. WARMINGTON, Commerce^{2}, 212. The fabric is in fact in documents a fine linen and its use and production is refered to frequently in papyri, ostraca and inscriptions (e. g. SB VI.9346; OGIS 90.17,29). On the difficulty of identifying *byssus* see E. WIPSZYCKA, L'industrie textile dans l'Égypte romaine (Warsaw 1965), 40—41. Also used of silk, cf. Strabo XV.1.20; cf. also commentary of A. S. F. Gow, Theocritus, 2 (Cambridge 1952), p. 50 on Theoc. Id. II.73.

[1029] R. E. MASSEY, A Note on the Early History of Cotton, SNR 6 (1923), 231—233. Identification confirmed by microscopic examination, so A. LUCAS, AEM 148 n. 12; F. U. GRIFFITH and G. M. CROWFOOT, On the Early Use of Cotton in the Nile Valley, JEA 20 (1934), 5—12. On the possibility of cotton being native to the Sudan see ibid., 9.

[1030] From the monastery of Phoebammon in the Thebaid: E. A. M. GREISS, Découverte de fibres et tissus de cotton en Égypte, Bull. Soc. d'Arch. Copte 13 (1951), 193—195, and IDEM, Les plus anciens specimens de tissus et de fibres de coton découverts en Égypte, CE 27 (1952), 321—323. From a fourth and fifth century context at Karanis: L. M. WILSON, Ancient Textiles from Egypt in the University of Michigan Collection (Ann Arbor 1933), 50. WILSON suggests the cotton is Indian for no apparent reason.

[1031] R. PFISTER, Textiles de Palmyre, 2.15—16.

[1032] R. PFISTER and L. BELLINGER, The Excavations at Dura Europos, Final Report IV pt. 2. The Textiles (New Haven 1945), 53 no. 262. Also from the Sasanian site of Halabiyeh a child's cotton tunic, see R. PFISTER, Textiles de Halabiyeh (Paris 1951), 9 no. 5, pl. III. Another find of cotton has been made recently in the same region by a Japanese archaeological team in the Al-Tar caves southeast of Palmyra, see H. Fujii, Al-Tar Caves, Hill-A, Excavations in 1971, Sumer 29.1/2 (1973) 64 (seventh century).

[1033] L. Biek, Archaeology and the Microscope (London 1963), 148.

[1034] O. Castellani, La momie de la Grotta Rosa, RACF 3.2 (1964), 140.

[1035] L. Nagy, Aquincumi Mumiatemetkezesek, Diss. Pannonicae 1 ser. 4 (Budapest 1935), 33—36.

[1036] The remains of a cotton cloth were found attached to two coins in a hoard of 501 *antoniniani* and *folles* of c. A.D. 300; see M. D. Alecu and P. R. Franke, Der Römische Münzfund von Dillingen-Pachten, 1968, 16. Bericht der Staatlichen Denkmalpflege im Saarland, Beiträge zur Archäologie und Kunstgeschichte (1969), 141—148 coins and 161—163 cotton, and P. R. Franke, Um 300 n. Chr.: Baumwollstoffe im Saarland, Textil-Industrie 72.10 (1970), 749—750. (I wish to express my gratitude to Professor P. Franke for drawing these articles to my attention and for furnishing me with copies of both.)

[1037] For the textiles used for clothing in the Roman West see J. P. Wild, Clothing in the North-West Provinces of the Roman Empire, BJ 168 (1968), 166—240; Idem, Textile Manufacture in the Northern Roman Provinces (Cambridge 1970), 4—30.

[1038] P. Lond. II.191 (A.D. 103—117), a list of household articles being sold by a widow Tertia Ancharenia in Karanis. In the papyri κάλαμος usually means a tubular rod or reed, e. g., BGU II. 619; P. Tebt. I. 83; P. Flor. III. 369. For the meaning of φλαγέλλιον as bunches of young shoots see Columella III. 6. 3.

[1039] Dioscurides I. 18: κάλαμος ἀρωματικὸς φύεται μὲν ἐν Ἰνδίᾳ, ἔστι δὲ αὐτοῦ κάλλιστος ὁ κιρρός … Cf. Pliny, NH XII.104: *Calamus quoque odoratus in Arabia nascens communis Indis atque Syriae est, in qua vincit omnis.*

[1040] Strabo XVI. 4. 9 (describing the west coast of the Red Sea): μετὰ δὲ τὴν Ἐλαίαν αἱ Δημητρίου σκοπιαὶ καὶ βωμοὶ Κόνωνος· ἐν δὲ τῇ μεσογαίᾳ καλάμων Ἰνδικῶν φύεται πλῆθος·

[1041] P. Cair. Zen. IV.59532. Published with commentary: C. C. Edgar, Selected Papyri from the Archives of Zenon (nos. 37—48), ASAE 19 (1920), 101—104. Taken as proof of trade: H. Kortenbeutel, Süd- u. Osthandel, 33; M. Rostovtzeff, A Large Estate, 112; cf. O. Stein, Indien in den griechischen Papyri, Indologica Pragensia 1 (1929), 35.

[1042] For a gift of Indian dogs to Alexander from Sophytes see Strabo XV.1.31; cf. Diodorus XVII.92, who puts the number at 150. On the identification of Sophytes from his coins see R. B. Whitehead, The Eastern Satrap Sophytes, NC 6 ser. 3 (1943), 60—72; cf. J. N. Banerji, Sophytes — Saubhuti, JNSI 7 (1945), 23—26; A. K. Narain, Some Interesting Coins of Sophytes and the Problem of his Identification, JNSI 11 (1949), 93—99; Idem, The Indo-Greeks, 4—5 who argues that S. is a non-Indian ruler. The most notable representation of Indian dogs is found on a silver dish of the fourth to fifth centuries from Lampsacus. The dish shows India represented as a woman surrounded by various animals, including two dogs. For identification of the figure see H. Graeven, Die Darstellungen der Inder in Antiken Kunstwerken, JDAI 15 (1900), 202—211, fig. 6; cf. E. H. Warmington, Commerce², 143 dating the plate to the first or second century; cf. K. A. Nilakanta Sastri, The Colas, 105—106. On the dogs in this scene see V. S. Agrawala, India Represented on a Silver Dish from Lampsacus, JUPHistS 16.2 (1943), 3—6, esp. 4—5; for the date see D. E. Strong, Greek and Roman Silver Plate (London 1966), 198—199. Also on this dish see B. N. Mukherjee, Nana on Lion, 58, 101—104, who suggests leopards instead of dogs and ascribes the dish to Alexandria.

[1043] Cf. the description of the famous *pompe* of Philadelphus by Callixeinus of Rhodes in his Περὶ Ἀλεξανδρείας, which includes a display of 2,400 dogs. It is clear that breeds of dogs rather than actual imports are refered to: ἤγοντο δὲ καὶ κύνες . . . , οἱ μὲν Ἰνδοί οἱ λοιποὶ δὲ Ὑρκανοὶ καὶ Μολοσσοὶ καὶ ἑτέρων γενῶν (FGrHist. no. 627. F 2).

[1044] Herodotus I.192.4.

[1045] On this spice see J. Berendes, Die Arzneimittellehre des Dioskurides, 34—35; J. I. Miller, Spice Trade, 74—77. See particularly Ptolemy VII.2.15—16: τὴν Κιρραδίαν, ἐν ᾗ φασι γίγνεσθαι τὸ κάλλιστον μαλάβαθρον; and Periplus c. 65 (= Frisk, pp. 21.21—29 and 22.1—6). On the Besadae and an emendation of Periplus c. 65 see P. H. L. Eggermont, The Name of the People of the Besadae, AcOr 19.4 (1943), 281—290.

[1046] J. Berendes, Die Arzneimittellehre des Dioskurides, 237—238; E. H. Warmington, Commerce², 181—184; J. I. Miller, Spice Trade, 80—83. See particularly Periplus c. 49 (= Frisk, p. 16.30), c. 56 (= Frisk, p. 18.16,22).

[1047] E.g. Apicius, I.1.1, 2; II.1.3, 4, 5, 7; 2.1, 2, 3, 4, 5, 7, 8, 9, 10; 3.1; 4.1 etc. (André). For the various types of pepper in the 'De re coquinaria' see J. André, L'alimentation et la cuisine à Rome (Paris 1961), 209—210.

[1048] See the examples from Pompeii, Chaourse in France, and Nicolaevo in Bulgaria as well as others in museums mentioned by D. E. Strong, Greek and Roman Silver Plate, 154, 178—179.

[1049] E. g. PSI X.1180.94,102; XII.1264.13,16; P. Lips. 102; P. Oxy. VI.921. 26, cf. BL I. p. 326; X.1299.10—11; P. Princ. III.155 v. 2.

[1050] A. Grohmann, Südarabien als Wirtschaftsgebiet (Prague 1930), 127—142 (frankincense); 148—155 (myrrh); H. von Wissmann, Saeculum 4.1 (1953), 69—70; G. van Beck, Frankincense and Myrrh in Ancient South Arabia, JAOS 78 (1958), 141—152; Idem, Frankincense and Myrrh, BibArch 23.3 (1960), 70—75; F. N. Hepper, Arabian and African Frankincense Trees, JEA 55 (1969), 66—68 with maps, pl. XIV. Gerrha was also a major source of frankincense in the Hellenistic period, but it is uncertain whether the plant actually grew there; cf. λίβανος Γερραῖος — P. Cair. Zen. IV. 59536 (261 B. C.). For the wealth of this city in spices see Polybius XIII. 9. 5: Κυρωθείσης δὲ τῆς ἐλευθερίας τοῖς Γερραίοις ἐστεφάνωσαν παραχρῆμα τὸν Ἀντίοχον τὸν βασιλέα πεντακοσίοις ἀργυρίου ταλάντοις, χιλίοις δὲ λιβανωτοῦ καὶ διακοσίοις τῆς λεγομένης στακτῆς . . . . ἦσαν δὲ τὰ ἀρώματα ἐν τῇ Ἐρυθρᾷ θαλάττῃ. Dated to 205 B. C. Cf. H. H. Schmidt, Untersuchungen zur Geschichte Antiochos des Großen und seiner Zeit (Wiesbaden 1964), 49; F. W. Walbank, A Historical Commentary on Polybius (Oxford 1967), 2.421—422. For the location of ancient Gerrha in the oasis of El-Qaṭīf near the Persian Gulf see H. von Wissman, Zur Kenntnis von Ostarabien, besonders El-Qaṭīf, im Altertum, Le Muséon 80 (1967), 489—492, 496—502 (map of route connecting Gerrha with South Arabia); cf. W. E. James, On the Location of Gerrha, in: F. Altheim and R. Stiehl, Die Araber in der Alten Welt, 5.2.42—53.

[1051] M. Khvostov', Istoriia, 86—100; G. W. van Beek, JAOS 78 (1958), 143—144; F. N. Hepper, JEA 55 (1969), 68—70, pl. XV.

[1052] For Egypt see R. O. Steuer, Myrrhe und Stakte (Wien 1933), 31—48; A. Lucas, Notes on Myrrh and Stacte, JEA 23 (1937), 27—33. On spices and perfumes in linear B tablets from Pylos, Mycenae, etc. see L. R. Palmer, The Interpretation of Mycenaean Greek Texts (Oxford 1963), 269—278 and J. Chadwick and M. Ventris, Documents in Mycenaean Greek² (Cambridge 1973), 223—231. For the occurrence of myrrh in the Cnossus tablets see A. Sacconi, La mirra nella preparazione degli unguenti profumati a Cnosso, Athenaeum 47 (1969), 287—289. For spices in Akkadian and Sumerian documents see E. Ebeling, Mittelassyrische Rezepte zur Bereitung von wohlriechenden Salben, Orientalia n. s. 17 (1948), 129—143.

[1053] Most recent reconstruction based on new material: see W. S. Smith, The Land of Punt, JARCE 1 (1962), 59—61.

1054 A. LUCAS, JEA 23 (1937), 28—29. Expeditions discussed by D. M. DIXON, The Transplantation of Punt Incense Trees in Egypt, JEA 55 (1969), 55—65; F. N. HEPPER, JEA 55 (1969), 69—70; IDEM, An Ancient Expedition to Transplant Living Trees, Jour. of the Royal Horticultural Soc. 92 (1967), 436—438. Certain record of such expeditions also comes from the reign of Rameses III in 'Papyrus Harris I' (BREASTED, Ancient Records, IV. § 210) and earlier from the inscription of Hena in Wadi Hammamat (J. COUYAT and P. MOUTET, Les inscriptions hiéroglyphiques et hiératiques du Ouâdi Hammâmât, no. 114; cf. T. SÄVE-SÖDERBERGH, The Navy of the Eighteenth Egyptian Dynasty [Uppsala 1946], 11—12) and from the stele of Khenty-khety-wer found at Wadi Gasus (BREASTED, Ancient Records, I. §§ 604—605).

1055 For the extent of early Egyptian navigation in the Red Sea see references in R. DELBRUECK, BJ 155/165 (1955/56), 9—13. There should be added to his notes G. A. WAINWRIGHT, Zeberged: The Shipwrecked Sailor's Island, JEA 32 (1946), 31—38; cf. W. VYCICHL, Notes on the Story of the Shipwrecked Sailor, Kush 5 (1957), 70—72, who argues that the island is fictive. The account of J. HORNELL, Sea Trade in Early Times, Antiquity 15 (1941), 233—256 lacks judgement in the analysis of the source material used and cannot be relied upon. For the traditional reluctance of the Egyptians to venture forth on the seas see A. NIBBI, The Sea Peoples and Egypt (Park Ridge 1975), 125—136. For a technical study of the ships depicted at Deir el-Bahri see R. L. BOWEN, Egypt's Earliest Sailing Ships, Antiquity 34 (1960), 128—131.

Punt is variously located. For a Red Sea attribution see F. W. VON BISSING, Pyene (Punt) und die Seefahrten der Ägypter, Die Welt des Orients 3 (1948), 146—157; a location slightly further south near modern Djibuti was suggested by M. HILZHEIMER, Zur geographischen Lokalisierung von Punt, ZÄS 68 (1932), 112—114. A study of marine life portrayed on the reliefs identified some of the species involved but was unable to define the region of Punt more closely than somewhere on the Indian Ocean or the Red Sea; see E. DANELIUS and H. STEINITZ, The Fishes and Other Aquatic Animals of the Punt Reliefs at Der el-Bahri, JEA 53 (1967), 15—24. A comprehensive survey of the evidence and of earlier literature may be found in R. HERZOG, Punt, Abh. DAI(K), Ägypt. Reihe 6 (Glückstadt 1968). HERZOG argued that Punt should be identified with the Sudan and that voyages to Punt took place on the Nile rather than on the Red Sea. Cf. K. A. KITCHEN, Punt and How to Get There, Orientalia 40.2 (1971), 185—207, who agrees with HERZOG's location of Punt but shows that there can be no doubt about the fact that voyages to Punt were made on the Red Sea. KITCHEN suggests a possible itinerary and places the coast of the land of Punt between Port Sudan and Suakin; the traditional view (against HERZOG) is also upheld by W. VICICHL, Lag das Land Punt am Meer oder im Sudan ?, CE 45 (1970), 318—324.

The appearance of Mesopotamian influence or artifacts in predynastic Egypt has led to the hypothesis that as early as c. 3200 B.C. ships from the Persian Gulf were frequenting the Red Sea port at the terminus of the road from Coptos; so G. A. WAINWRIGHT, Early Magan, Antiquity 37 (1963), 307—308. But this is rather unlikely, see below n. 1169 for early Persian Gulf trade and the problems of identifying toponyms in cuneiform documents. Predynastic activity in the Eastern Desert is now archaeologically well documented but usually only in connexion with the working of various mines and quarries in the area. See F. DEBONO, ASAE 51 (1951), 66—78. On the Red Sea coast itself there are very few traces of predynastic activity. A single tomb was found at Ras Samadai, cf. G. W. MURRAY and D. DERRY, A Predynastic Burial on the Red Sea Coast of Egypt, Man 23 (1932), art. no. 81, 129—131, and other tombs were reported by the 1949 expedition, F. DEBONO, op. cit., 83.

1056 See discussion in F. N. HEPPER, An Ancient Expedition to Transplant Living Trees, Jour. of the Royal Horticultural Soc. 92 (1967), 436—438; IDEM, JEA 55 (1969), 69—70; D. M. DIXON, JEA 55 (1969), 56—58.

1057 F. N. HEPPER, JEA 55 (1969), 71; D. M. DIXON, JEA 55 (1969), 63—64; P. COLLART and P. JOUGUET, Petites recherches sur l'économie politique des Lagides, in: Raccolta Lumbroso (Milan 1925), 116; cf. Pliny, NH XII.56: *Iuba rex iis voluminibus quae scripsit ad C. Caesarem Augusti filium ardentem fama Arabiae tradit contorti esse caudicis, ramis aceris maxime Pontici, sucum amygdalae modo emittere. talesque in Carmania apparere et in Aegypto satas studio Ptolomaeorum regnantium*; cf. A. GROHMANN, Südarabien, 126. The papyri seldom add descriptive ethnic terms to aid in the identification of the origin of the spice. There are several exceptions: ζμύρνα Τρωγλοδύτη (O. Bodl. II. 2153, fourth century); λίβανος Μιναῖος and λίβανος Γερραῖος (P. Cair. Zen. IV. 59536, 216 B. C., and PSI VI. 628, mid-third century B. C.); [μ]ύρον ἐκ Μειναίας and μύρον ἐκ Τρωγωδυτικῆς (U. WILCKEN, APF 3 [1903—06], 186).

In general on the introduction of new types of crops and new species of animals by Philadelphus see R. JOHANNESON, Ptolemy Philadelphus and scientific agriculture, CPh 18 (1923), 156—161; H. A. THOMPSON, Syrian Wheat in Hellenistic Egypt, APF 9 (1930), 207—213; D. J. CRAWFORD, Garlic-Growing and Agricultural Specialization in Graeco-Roman Egypt, CE 48 (1973), 350—363.

[1058] E. g. see already R. SIGISMUND, Die Aromata (Leipzig 1884), 30—32; J. BERENDES, Die Arzneimittellehre des Dioskurides, 36—37, 38—39; J. PARTSCH, BKSGW 68.2 (1916), 36—37; J. I. MILLER, Spice Trade, 42—47; E. H. WARMINGTON, Commerce², 185—187; J. PIRENNE, in: M. MOLLAT (ed.), Sociétés, 103.

[1059] Strabo XV.1.22 (= Onesicritus, FGrHist no. 134.F22).

[1060] J. BERENDES, Die Arzneimittellehre des Dioskurides, 36—37, 39; W. H. SCHOFF, Periplus, 82—84; A. SCHMITT, Drogen und Drogenhandel, 63—64; E. H. WARMINGTON, Commerce², 186—189; M. P. CHARLESWORTH, CQ 22 (1928), 99; J. FILLIOZAT, Les échanges de l'Inde et de l'Empire Romain aux premiers siècles de l'ère chrétienne, in: IDEM, Les relations extérieures de l'Inde (Pondicherry 1956), 6—8, 24—25; G. R. TIBBETTS, JMBRAS 29.3 (1956), 188—189, 193, 195, 198, 200, 204; M. A. MURRAY, Indians in Africa, Man (June 1956), art. no. 89, p. 87; G. W. VAN BEEK, BibArch 23.3 (1960), 80; E. WOELK, Agatharchides von Knidos, 237—238; R. MAUNY, Le Périple de la Mer Érythrée et le problème du commerce romain en Afrique au Sud du Limes, JSocAfr 38 (1968), 25 n. 8; P. K. HITTI, History of the Arabs, 9th ed. (New York 1968), 49; J. I. MILLER, Spice Trade, 153—172; R. DIHLE, Innsbrucker Beiträge zur Kulturwissenschaft, H. 4 (1974), 5 (up to middle of second century B.C).

The basic theory that merchants tell fabulous tales about the source of their merchandise or that entrepôts are falsely identified as the place of origin of rare products is otherwise well attested. See instances cited in R. HENNIG, Κιννάμωμον und κινναμωφόρος χώρα in der antiken Literatur, Klio N.F. 32 (1939), 325—326. See already H. E. DIRKSEN, APAW (1843), 77—78.

[1061] A number of early Egyptian papyri and *stelai* contain aromatic substances which have been taken to be cinnamon and cassia: BREASTED, Ancient Records, II. § 265, cinnamon wood among the products of Punt on the Der el-Bahri reliefs, eighteenth dynasty; III. § 116: cinnamon from Punt on Karnak reliefs of Seti I, nineteenth dynasty; IV. §§ 234, 240, 287, 300, 344, 348, 378, 391, 394: large quantities of cassia and cinnamon occur among Rameses III's gifts to various temples in the hieratic Harris-Papyrus.

[1062] For the suggestion that the Phoenicians are the earliest middlemen in the trade see J. BERENDES, Die Arzneimittellehre des Dioskurides, 39; W. MUSS-ARNOLT, Semitic Words in Greek and Latin, TAPhA 23 (1892), 115; W. THISELTON-DYER, On some Plant-Names, JPh 33 (1914), 200. All this nonsense finds its way into J. I. MILLER, Spice Trade, 260—267, who cites as support 'recent' excavations in Malaya, none later than 1920.

[1063] See A. LUCAS, Early Egyptian Materials³, 108—109; R. O. STEUER, Myrrhe und Stakte, 31—48.

[1064] J. I. MILLER, Spice Trade, 153—172; cf. E. W. GRAY, JRS 60 (1970), 222. So also M. DETIENNE, Les jardins d'Adonis, 37—38 (D.'s acceptance of MILLER's theories vitiates the usefulness of this portion of his book) and M. LOEWE, JRAS (1971), 2.174—175. The best criticism of this portion of MILLER's work may be found in B. A. DATOO, Rhapta: the Location and Importance of East Africa's first Port, Azania 5 (1970), 69, 71—72.

[1065] Pliny, NH XII.86—88; cf. comments of E. W. GRAY, JRS 60 (1970), 222.

[1066] A general summary of the problem up to 1961 may be found in P. VÉRIN, Rétrospective et problèmes de l'archéologie à Madagascar, AP 6.1/2 (1962), 198—218 with a full bibliography updated by IDEM, AP 10 (1967), 77—84. More recently DESCHAMPS has suggested that the Indonesians settled first in Africa and then together with the Africans migrated to Madagascar, see H. DESCHAMPS, Histoire de Madagascar^2 (Paris 1961), 26—29; cf. also J. VALETTE, De l'origine des Malgaches, Taloha 1 (1965), 29—31. Cf. the related theory that East Africa and Southern Arabia were settled by 'Dravidians': L. HOMBURGER, Indians in Africa, Man (Feb. 1956), art. no. 24, 18—21; further such arguments in M. A. MURRAY, Indians in Africa, Man (June 1956), art. no. 89, 87 (the argumentation in both is exceedingly simplistic and naive).

[1067] A. M. JONES, Africa and the Indonesians (Leiden 1964), passim. See also evidence assembled by HUTTON to support this view that Indonesian settlers also reached Nigeria, J. H. HUTTON, West Africa and Indonesia: A Problem in Distribution, JRAI 76.1 (1946), 5—11; cf. E. L. HEINS, Indonesian Colonization of West and Central Africa?, BKI 122 (1966), 274—282.

[1068] Cf. the studies of O. C. DAHL, Le système phonologique proto-malgache, NTS 10 (1938), 194—196; J. DEZ, Quelques réflexions sur les problèmes actuels de la linguistique malgache, BAM 34 (1956), 92—94, who discusses earlier theories and points out that chronological conclusions are still impossible. Some linguistic theories place the separation of Malagasy from the main body of Malayo-Polynesian languages as much as 4,000 to 5,000 years ago; see S. RAHARIJAONA, Place et intérêt du Malgache dans les langues Indonésiennes, BAM 38 (1960), 63—64. Also on the question of the impact of Sanskrit see S. BENARD-THIERRY, A propos des emprunts Sanskrits en Malgache, JA 247 (1959), 339—340 who notes that the uncertainties and complexities are such that a definitive solution is impossible. There are Sanskrit words but not the religiously oriented vocabulary which as far as we know from the inscriptions had the greatest impact in Southeast Asia.

[1069] A few scholars place the migration into the first millennium on this basis, e. g. J. VALETTE, Taloha 1 (1965), 19. See below n. 1674 for the epigraphic evidence from Malaya and Indonesia. Some proposed dates are considerably later, e. g. J.-A. RAKOTOARISOA, Madagascar — L'homme et son milieu, in: Malagache qui es-tu?, 20, places the earliest arrival of Africans into the seventh to ninth centuries and the advent of the Indonesians into the thirteenth century; see also H. DESCHAMPS, Histoire de Madagascar^2, 39—42, seventh century and later.

[1070] Linguistically the origin of Malagasy is thought to be in Borneo, Java, or even the Philippines. For discussion of earlier theories see J. DEZ, BAM 34 (1956), 92—93. For relationship of Malagasy to the language of the Mauris of New Zealand see S. RAHARIJAONA, BAM 38 (1960), 63. For the relationship to Borneo, see W. AICHELE, Eine neu erschlossene frühindonesische Literatursprache in ihrem Einfluß auf das Altjavanische, ZDMG 90 (1936), *18*—*19*; cf. O. C. DAHL, NTS 10 (1938), 230—235; see more recently G. P. MURDOCK, Africa, its Peoples and their Culture (New York 1959), 214, who traces Madagascar's Indonesian settlers back to the Maanyan of Borneo. For the derivation of Malagasy from southeastern Borneo, see O. C. DAHL, Malgache et maanjan: Une comparaison linguistique (Oslo 1951), 364—367 with a date of c. A.D. 400 for the arrival in Madagascar; cf. I. DYEN, Review of O. C. DAHL, Malgache et Maanjan: une comparaison linguistique . . ., Language 29.4 (1953), 578—580, 589—590 who argues that lexicostatistic dating tends to verify DAHL's date. However, the assumptions made in such a study are fine for a linguistic model but can scarcely apply to varied, and in this case unknown, historical contexts. For Sumatra origins see R. LINTON, The Tree of Culture (New York 1955), 181. Cf. the very justified criticism of all such linguistic theories of origin by W. G. Solheim, Indonesian Culture and Malagasy Origins, Taloha 1 (1965), 34—35 and J. Dez, Quelques hypothèses formulées par la linguistique comparée à l'usage de l'archéologie, Taloha 1 (1965), 199.

[1071] The existence of these implements in Madagascar suggests that the proto-Malagasy arrived from Southeast Asia before c. A.D. 1000; see M. Bloch and P. Vérin, Discovery of an Apparently Neolithic Artifact in Madagascar, Man n. s. 1 (1966), 240—241 (found at Ambatomanoina), cf. P. Verin, Austronesian Contributions to the Culture of Madagascar: Some Archaeological Problems, in: H. N. Chittick and R. I. Rotberg (eds.), East Africa and the Orient (New York/London 1975), 183—184 who notes also the discovery of a bone axe and pottery at the subfossil site of Ampasambazimba. See also on the stone adze, A. Southall, The Problem of Malagasy Origins, in: ibid., 196—197 who, less cautious than Vérin, cites the adze as evidence of a pre-Iron Age migration to the island. At the stratified excavations in the Niah cave in Borneo, quadrangular stone adzes are dated to the first millennium B.C.; see T. Harrison, New Archaeological and Ethnological Results from Niah Caves, Sarawak, Man (Jan. 1959), art. no. 1, 5—6. But it is possible for stone tools to have been in common use in much later periods. For example, in the cave at Gunong Pondok, Malayan Neolithic stone tools have been found in Iron Age strata together with Ming porcelain, see I. H. N. Evans, A Rock-Shelter at Gunong Pondok, JFMSM 11 (1922), 267—270; cf. also the apparent late survival of such tool production at Gunong Baling in Kedah, H. D. Collings, Report of an Archaeological Excavation in Kedah, Malay Peninsula, BRM ser. B 1.1 (1936), 6—10. But cf. the Kok Charoen burials in Thailand where stone adzes are found in the second millennium B.C., see H. E. E. Loofs and W. Watson, The Thai-British Archaeological Expedition: A Preliminary Report on the Work of the Second Season 1967, JSS 58.2 (1970), 67—78. It is also doubtful whether or not Indonesians and Malayans before the advent of metal could build real sea-faring craft; see discussion of the cave deposits at Bukit Chuping, Perlis, in H.D. Collings, An Excavation at Bukit Chuping, Perlis, BRM ser. B 1.2 (1937), 111. In general see R. C. Green, The Antiquity of the Quadrangular Adze in China and South-East Asia, NNZAA 18.1 (1975), 39—41 who dates the diffusion of the quadrangular adze in Oceania to the period 3000—1000 B.C.; but cf. R. Blust, Austronesian Culture History: some Linguistic Inferences and their Relations to the Archaeological Record, WA 8 (1976), 32 who argues from linguistic evidence that iron was known to the first Indonesian settlers of Madagascar.
The use of the term 'ancient' in discussing the material culture of Madagascar is relative; see for example the excavation of an 'ancient' site in the caves at Isandra, which was occupied in the eighteenth century, P. Vérin, L'ancienne civilisation de l'Isandra, Taloha 1 (1965), 249—284. The Carbon-14 date for the earliest Iron Age sites in Madagascar comes from the Vohemar excavations and yields a reading of c. A.D. 1100, see P. Gaudebout and E. Vernier, Notes sur une campagne de fouilles à Vohémar, 'Mission Rasikajy 1941', BAM 24 (1941), 106, 113—114. Vérin cites a radiocarbon date of A.D. 490 ± 90 from Sarodrano but notes that this could not be confirmed by a stratigraphic check, see P. Vérin, in: H. N. Chittick and R. I. Rotberg, East Africa and the Orient, 183—184, n. 60. On the African mainland the first evidence for the advent of the Iron Age is somewhat earlier: the fifth century B.C.; see R. Summers, The Southern Rhodesian Iron Age, JAH 2.1 (1961), 1—13; A. J. E. Jaffey, A Reappraisal of the History of the Rhodesian Iron Age up to the Fifteenth Century, JAH 7.2 (1966), 189—195; M. S. Bisson, Prehistoric Copper Mining in Northwestern Zambia, Archaeology 27.4 (1974), 245. In detail see below n. 1141a.

[1072] A. M. Jones cites such bead finds, Africa and Indonesia^2, 187—188 with a date of 200 B.C. to A.D. 500. The most comprehensive study of beads found on the island is S. Thierry, Inventaire des perles de fouilles à Madagascar, BAM 37 (1959), 103—133 who describes beads found at Vohemar, Nosy Lolo, Analavory, Betamango and in the district of Antsalova. Most of the beads are carnelian and are similar to other African finds in Chad and Senegal, cf. J. Joire, Découvertes archéologiques dans la région de Rao (Bas-Sénégal), BIFAN ser. B 17.3/4 (1955), 265, 290; M. Griaule and J.-P. Lebeuf, Fouilles dans la region du Tchad, JSocAfr 18.1 (1948), pls. VIII—IX; Abbe Breuil, Restes d'une sépulture en grotte au Sahara, JSocAfr 24.2 (1954), 114—115. The chevron beads found on Madagascar have been traced back to Egypt by S. Thierry, op. cit., 139—140 who suggests that they reached the island at an early date. Most of the beads discussed, however, come from Vohemar, which is certainly a site of the Middle Ages to judge from its coins (e. g. a gold piece of 515 H./A.D. 1137) and its Chinese porcelain. For the excavations at the site see P. Gaudebout and E. Vernier, BAM 24 (1941), 100—114; cf. the chronology in C. Poirier, Réflexions sur les ruines de Mahilaka, BAM 28 (1947—1948), 97—101 with a date of tenth to eleventh centuries for Mahilaka and twelfth to thirteenth centuries for Vohemar. In detail on the Mahilaka site see the description of M. Millot, Les ruines de Mahilaka, BAM 10 (1912), 285—286. The relationship of East African beads to those from India is discussed by W. G. N. van der Sleen, Ancient Glass Beads with special reference to the Beads of East and Central Africa and the Indian Ocean, JRAI 88.2 (1958), 203—216.

It has been argued by A. J. Arkell, Cambay and the Bead Trade, Antiquity 10 (1936), 292—305 that all agate and carnelian beads found in Africa were made in India, particularly in Gujarat. That these were exports from India in Antiquity is indicated by Periplus c. 48 (= Frisk, p. 16.14—15): εἰς Βαρύγαζαν καταφέρεται καὶ τὰ πρὸς ἐμπορίαν τὴν ἡμετέραν, ὀνυχίνη λιθία καὶ μουρρίνη; c. 49 (= Frisk, p. 16.29): φέρεται δὲ ἀπὸ τῶν τόπων (Barygaza) ... ὀνυχίνη λιθία; c. 51 (= Frisk, p. 17.12): Κατάγεται ... εἰς τὴν Βαρύγαζαν ἀπὸ μὲν Παιθάνων ὀνυχίνη λιθία πλείστη. The stratified excavations at Zimbabwe have with the aid of radiocarbon dating thrown fresh light on the Antiquity of the arrival of such beads in Africa. A few beads have been found in period II(a) at Zimbabwe but most beads come from a much later period, see K. R. Robinson, in: R. Summers, K. R. Robinson and A. Whitty, Zimbabwe Excavations 1958, OcPapNMSR 3, no. 23 A (1961), 227—235, cf. G. Caton-Thompson, Zimbabwe, All Things Considered, Antiquity 38 (1964), 100; but the seventh century date proposed by Robinson for the early part of period II has in the light of subsequent excavations been raised to the tenth and eleventh centuries, see T. N. Huffman, The Rise and Fall of Zimbabwe, JAH 13.3 (1972), 355—356. A few beads have also been found in approximately contemporary contexts at Leopard's Kopje, Gokomere and the Chibi Reserve; for the later date at Leopard's Kopje see T. N. Huffman, Excavations at Leopard's Kopje Main Kraal: A Preliminary Report, SAAB 26 (1971), 495—513. A second series of sites comparable to Zimbabwe III at Bambandyanalo and Mapungubwe have yielded bead assemblages of Arab import, and Khami, Dhlo-Dhlo and a number of other sites which have produced large numbers of beads are dated to the Portuguese period (see literature above). On the Kenya coast all of the major bead assemblages come from sites of the thirteenth century or later, see J. S. Kirkman, The Kenya Littoral, CA 7.3 (1966), 347. See also the study of C. C. Davison and J. D. Clark, Trade Wind Beads: An Interim Report of Chemical Studies, Azania 9 (1974), 75—85 who are far more cautious than Arkell in accepting the Indian origin of Trade Wind beads (to the list of pre-fourteenth century bead finds given above they add Mapela, Kilwa and Ingombe Ilede). Recent excavations at Axum have led to the suggestion that crude inferior carnelian beads may have been manufactured there, see N. Chittick, Excavations at Aksum, 1973—74: A Preliminary Report, Azania 9 (1974), 200.

[1073] For the evidence from blood-types, see J. H. Hutton, JRAI 76.1 (1946), 11. The population from the so-called Arab cemeteries at Vohemar is a very mixed one yielding examples of Negroid, Melanoid and Mongoloid individuals; see R. Hartweg, Observations odontologiques sur les crânes provenant des anciennes sépultres dites 'Arabes' de Vohémar (Madagascar), BAM 28 (1947—1948), 50—55; for a study of 71 crania from the site see P. Marquer, Étude anthropométrique des ossements provenant des sépultres «Arabes» de la région de Vohémar (Madagascar), BAM 28 (1947—1948), 68—80 who concludes that the basic population here is Negroid.

[1074] Stressed by A. M. Jones, Africa and Indonesia^2, 9—13, 189—190. Further on the evidence from xylophone construction see A. M. Jones, The Influence of Indonesia: the Musicological Evidence Reconsidered, Azania 4 (1969), 131—144; for the relationship of the outrigger canoe types of East Africa and its islands to those of Indonesia see J. Hornell, The Outrigger Canoes of Madagascar, East Africa and the Comoro Islands, MM 30 (1944), 3—18, 170—185. The evidence derived from the study of outrigger canoes is by no means always interpreted to support an early date for immigration from Indonesia, cf. A. H. J. Prins, Uncertainties in Coastal Cultural History: the *Ngalawa* and the *Mtepe*, TNR 53 (1959), 205—210 who argues from the use of Arabic, Portuguese and Swahili terms prevalent along the coast for various parts of the canoe that this craft arrived rather late in this region. From this and literary references to the craft Prins concludes that the canoe arrived in Madagascar and the Comoro Islands in the sixteenth century and in East Africa in the early nineteenth century.

[1075] Cf. Solheim's suggestion that the Indonesian migration may have involved journeys in stages lasting several years or even several generations, W. G. Solheim, Taloha 1 (1965), 35—36, 38—40. Commercial relations between Indonesia and Madagascar are attested only from a period well into the Islamic age and at the time of the coming of the Portuguese, G. Ferrand, Les voyages des Javanais à Madagascar, JA 10 ser. 15 (1910), 281—285.

[1076] The dates of the earliest settlements in Micronesia and Polynesia are increasingly being pushed back by radiocarbon dating. Some sites have yielded pre-Christian dates, but most fall into the first millennium of the present era. Although this is several centuries earlier than previously supposed, it is clear that there exists no evidence for the very long voyages Miller's theory necessitates as early as 2000 B.C. On the contrary the sequence of radiocarbon dates suggest a very slow migrational process which did not reach New Zealand in force, for example, until c. A.D. 1000; see R. Shutler Jr., Peopling the Pacific in the Light of Radiocarbon Dating, AP 5 (1961), 207—212; cf. Chang Kwang-chih, G. W. Grace, and W. G. Solheim II, Movement of the Malayo-Polynesians: 1500 B.C. to A.D. 500, CA 5 (1964), 359—406. For a recent general summary of the settlement of Polynesia and Melanesia, see P. Bellwood, The Prehistory of Oceania, CA 16.1 (1975), 9—17. For the earliest sites on Samoa see the radiocarbon dates from the mounds at Vailale, T. L. Grant-Taylor and T. A. Rafter, New Zealand Radiocarbon Measurements, Radiocarbon 5 (1963), 158; for further excavations see J. M. Davidson, Archaeology in Samoa and Tanga, NNZAA 8.2 (1965), 63—64; radiocarbon dates for New Zealand together with cautionary remarks about their reliability are published by P. R. Moore and E. M. Tiller, Radiocarbon Dates for New Zealand Archaeological Sites, NNZAA 18.3 (1975), 98—103. The earliest settlement at another remote spot, the Hawaiian Islands, can to date not be traced back before c. 400—500, P. V. Kirch, The Chronology of Early Hawaiian Settlement, APAO 9.2 (1974), 110—119.

[1077] J. I. Miller assumes a direct route, see: Spice Trade 172, map 7. Cf. G. Donque, Le contexte océanique des anciennes migrations: vents et courants dans l'Océan Indien, Taloha 1 (1965), 55—58, who concludes that a coastal voyage along the South of Asia offers the only possible path of migration for a movement from Indonesia to Madagascar. For statistics on the length of recorded outrigger canoe voyages see G. S. Pursonson, The Settlement of Oceania: An Examination of the Accidental Voyage Theory, in: J. Golson (ed.), Polynesian Navigation: A Symposium on Andrew Sharp's Theory of Accidental Voyages, Suppl. to the Jour. of the Polynesian Soc., Mem. no. 34 (Wellington 1963), 33, 50—57. The Comoro Islands would have been an important landfall for navigators from the Indian Ocean sailing toward East Africa but no archaeological investigation has been as yet carried out here, see the survey in B. Dubins, The Comoro Islands: A Bibliographical Essay, AfrSB 12.2 (1969), 135—136.

[1078] See G. S. Pursonson, in: J. Golson (ed.), Polynesian Navigation, 28—32, 40, 60; G. M. Dening, The Geographical Knowledge of the Polynesians and the Nature of Inter-Island Contact, in: ibid., 121—124; similar motives attested in the native legends of some Madagascar tribes, R. Linton, The Tree of Culture, 181.

[1079] The emphasis which was once placed on large-scale migrations as the carriers of new cultures, in Polynesia and Indonesia (see primarily R. von Heine-Geldern, Urheimat und früheste Wanderungen der Austronesier, Anthropos 27.3/4 [1952], 543—619) has been replaced by hypotheses which stress small-scale irregular or even accidental contacts, see W. G. Solheim II, Prehistoric Archaeology in Eastern Mainland Southeast Asia and the Philippines, AP 13 (1970), 55—56. For suggestions of how the settlement came about see Idem, Taloha 1 (1965), 39—40. The thesis of A. Sharp, Ancient Voyages in the Pacific (Harmondsworth 1957), esp. 30—31, 97, that the Polynesians were capable of voyages lasting only a few days and that most of the Pacific islands (and Madagascar) were peopled as the result of accidental voyages, has not gained general acceptance; cf. criticisms of G. S. Pursonson in J. Golson (ed.), Polynesian Navigation, 15—64; G. H. Heyen, Primitive Navigation in the Pacific, in: ibid., 64—71; cf. A. Southall, in: H. N. Chittick and R. I. Rotberg, East Africa and the Orient, 197, 199 who suggests that the earliest Indonesian settlers of Madagascar arrived by accident, having been driven off course on voyages between Malabar and Indonesia. A recent computer simulation of Polynesian settlement supports the conclusion that the accidental drift hypothesis can account for the settlement of most, but not all, of the Polynesian outliers, see M. Levison, R. G. Ward and J. H. Webb, The Settlement of Polynesia: A Report on a Computer Simulation, APAO 7.3 (1972), 234—245. The open Indian Ocean, lacking the innumerable islands and atolls of the western Pacific, made long distance voyages with the primitive navigational techniques of the Polynesians impossible; on the latter see K. Akerblom, Astronomy and Navigation in Polynesia and Micronesia, Stockholm Ethnographical Museum Monograph no. 14 (Stockholm 1968), passim.
One of the most stimulating recent studies of Malagasy origins is that of R. K. Kent, Early Kingdoms of Madagascar, 1500—1700 (New York 1970), esp. 261—265, who argues that the Indonesians came first to Africa as part of a gradual migratory movement which settled over much of East Africa, until the southward expansion of the Bantu forced the mixed African-Indonesian population to move to Madagascar. For the three successive stages he proposes a date of c. A.D. 400—1000.

[1080] For the secret cinnamon trade see above n. 1060; for the view that Malays, Indians, and/or Arabs learned the secret of the Monsoons centuries before the Greeks and kept it a secret from them see W. Ensslin, PhW no. 1 (4 Jan. 1930), 12. W. Otto and H. Bengtson, ABAW N.F. 17 (1938), 204, n. 2; P. J. Thomas, Roman Trade Centres in Malabar, KSP 2 ser. 10 (1932), 259 and the modern literature cited above n. 1060.

[1081] For evidence of early voyages in these waters see above p. 657.

[1082] The evidence for the chronology of the Indian migrations to the East is outlined above p. 675.

[1083] For Malaya much of the original field work was done by Evans and Quaritch Wales (individual articles listed in the discussion below pp. 921—923). For chronology of Tanjong Rawa, Kuala Selinsing, Perak see M. W. F. Tweedie, Prehistory in Malaya, JSSS 4.2 (1947), 6. Some would place the earliest voyages from India and Ceylon to Southeast Asia in the sixth century B.C., e. g. S. G. Darain, The Economic History of the Ganges to the End of the Gupta Times, JESHO 13 (1970), 71—72, but the evidence cited is from early literary sources and thus of dubious chronological value (see above p. 675).

[1084] See above pp. 674—676.

[1085] For the finds at Oc-eo see below n. 1641.

[1086] The earliest literary evidence comes from an official report of a Chinese embassy to Fu-nan in c. A.D. 245 preserved in the Liang-Shu 54.1b, 9b, 22b—23a. The presence of more than 1000 *brāhmaṇs* in *Tun-sun* has been variously interpreted. *Tun-sun* has been identified with *Tenasserim*, see P. Pelliot, Le Fou-nan, BEFEO 4 (1903), 263, n. 1; G. H. Luce, Countries Neighbouring Burma, JBRS 14.2 (1924), 143, 153—156 (with reservations); cf. R. BRADDELL, Notes on Ancient Times in Malaya: Takola and Kataha, JMBRAS 22.1 (1949), 4—7, who identifies Ptolemy's *Takola* with *Tun-sun* and locates it at Trang in Malaya; P. WHEATLEY, The Malay Peninsula as known to the Chinese of the Third Century A.D., JMBRAS 28 (1955), 19—20: suggests the Isthmus of Kra; cf. P. J. LOEWENSTEIN, The Origin of the Malayan Metal Age, JMBRAS 24.2 (1956), 44—47, who rejects earlier theories because they lack archaeological evidence and suggests Java instead; H. L. SHORTO, The 32 *myos* in the Medieval Mon Kingdom, BSOAS 26.3 (1963), 583 suggests that *Tun-sun* may be a Chinese transcription of the proto-Mon term *Dung-sun* meaning "five cities". Accepted by C. E. COLLESS, The Early Western Ports of the Malay Peninsula, MJTG 29 (1969), 1; IDEM, Abr-Nahrain 10 (1970—1971), 102. P. WHEATLEY, Desultory Remarks on the Ancient History of the Malay Peninsula, in: J. BASTIN and R. ROOLVINK (eds.), Malayan and Indonesian Studies (Oxford 1964), 44—47 suggests that the *brāhmaṇs* may be an instance of cultural borrowing rather than actual immigrants. The earliest inscription (palaeographically dated, see below n. 1674) from the region (from Vō-canh) is a religious text. It was formerly considered Buddhist: so L. FINOT, Notes d'épigraphie, XIV. Les inscriptions du Musée de Hanoi, BEFEO 15 (1915), 4—5 and K. K. SARKAR, Mahāyāna Buddhism in Fu-nan, SIS 5.2 (1955), 1; but more recently it has been argued that it is Brahmic text, see J. FILLIOZAT, L'Inscription dite 'de Vō-cạnh', BEFEO 55 (1969), 114—116. Similarly the 500 families of *hu* living in *Tun-sun*. These have usually been understood as people from Central Asia (so PELLIOT) and/or of Iranian extraction (so CHAVANNES, LAUFER, etc.), see P. PELLIOT, Le Fou-nan, BEFEO 4 (1903), 279, n. 4; B. LAUFER, Sino-Iranica, 194—195; cf. P. WHEATLEY, in: Malay and Indonesian Studies, 47—48: *hu* are Persians.

[1087] The ancient people of Southeast Asia and Annam were actively engaged in coastal navigation before the Chinese began to settle in this area in the late third and second centuries B.C. The Yüeh people of this region provided the Chinese with ships and crews, see WANG GUNGWU, JMBRAS 31.2 (1958), 3—30. Cf. J. NEEDHAM, Abstract of Material Presented to the International Maritime History Commission at Beirut, in: M. MOLLAT (ed.), Sociétés, 142, who notes that the knowledge of astronomy required for navigation developed first in the Warring States and early Han periods on the shores of the Yellow Sea. But in the fifth century B.C. sea traffic in the China Sea was still limited to rather primitive craft, see LING SHUN-SHENG, Formosan Sea-going Raft and its Origin in Ancient China, BIEAS 1 (1956), 49—50; N. KOKUBU, The Prehistoric Southern Islands and East China Sea Areas, AP 7 (1963), 234—236. A late date for Chinese seafaring is also suggested by the fact that Okinawa and the Ryukyu Islands were settled from the southernmost island of Japan, Kyushu, and show to date few signs of early Chinese influence, see R. PEARSON, Recent Radiocarbon Dates from Ryukyu sites and their Chronological Significance, in: Archaeology at the Eleventh Pacific Science Congress, 1966 (Honululu 1967), 19—22 who cites radiocarbon dates of 760 ± 80 B.C. and 710 B.C. from Aguni and Yaejima in central Okinawa and A.D. 480 ± 80 from Hirota on Tanegashima. For Chinese finds at Katsuren in central Okinawa see HIROE TAKAMIYA, Archaeological Work in the Ryukyu Islands, 1961—1965, in: ibid., 16, the material is from the Sung period. But Chinese coins from the Warring States period (403—221 B.C.) have been found in the Ryukyu Islands, see N. KOKUBU, The Prehistoric Southern Islands and East China Sea Areas, AP 7 (1963), 234, 236.

[1088] On the use of non-Chinese ships by Han envoys sailing southwards in the South China Sea see P. WHEATLEY, JMBRAS 30.1 (1957), 121. Early Chinese texts refer to the large foreign sea-going ships as *po* from the third century onward. In its early usage the word is confined only to non-Chinese ships, see LO JUNG-PANG, Chinese Shipping and East-West Trade from the Tenth to the Fourteenth Century, in: M. MOLLAT (ed.), Sociétés, 168. Cf. also the curious fact revealed by excavations of the last two decades that Formosa after receiving a wave of migrants from South China before 200 B.C. remained apparently cut off and isolated from the mainland throughout the Han period, see CHANG KWANG-CHIH, Prehistoric Ceramic Horizons in Southeastern China and their Extension into Formosa, AP 7.1/2 (1963), 249. For similar conclusions about lack of contact with the rest of Southeast Asia, see W. G. Solheim II, Formosan Relationships with Southeast Asia, AP 7.1/2 (1963), 251—260.

[1089] See below n. 1145.

[1090] See the literature on the identification of *Huang-chih* cited below. An example of the very considerable divergence of opinions about the meaning of many South Seas toponyms may be found in Han Wai Toon, A Study of Johore Lama, JSSS 5.2 (1948), 17—35; cf. Hsü Yün-Ts'iao, Notes on Malay Peninsula in Ancient Voyages, JSSS 5.2 (1948), 1—16. A passage of Ammianus Marcellinus XIV.3.3 is also frequently cited to prove that Chinese vessels visited the Persian Gulf regularly by the fourth century: *Batnae municipium in Anthemusia conditum Macedonum manu priscorum, ab Euphrate flumine brevi spatio disparatur, refertum mercatoribus opulentis, ubi annua sollemnitate prope Septembris initium mensis, ad nundinas magna promiscuae fortunae convenit multitudo ad commercanda quae Indi mittunt et Seres, aliaque plurima vehi terra marique consueta*; so e. g. E. H. Warmington, Commerce^2, 138, 358, n. 146. The evidence for such early voyages is examined and rejected by G. F. Hourani, Direct Sailing between the Persian Gulf and China in the Pre-Islamic Times, JRAS (1947), 157—160.

[1091] A. Herrmann, Ein alter Seeverkehr zwischen Abessinien und Süd-China bis zum Beginn unserer Zeitrechnung, Zeit. d. Gesell. f. Erdkunde zu Berlin (1913), 553—561. Herrmann's thesis is founded on the identification of *Huang-chih* with Ethiopia. This suggestion has enjoyed little support, but is most recently accepted still as a possibility by J. Needham, in: M. Mollat (ed.), Sociétés, 140—141. The controversy stems from a short passage of the 'Han Shu', 28, of Pan Ku (completed c. A.D. 80). This account, thought by some to be interpolated, describes the voyage to the distant country of *Huang-chih* from which a tribute mission is recorded in A.D. 2 (Han Shu 28B. 32b). The toponym *Huang-chih* is frequently identified with Southern India and the passage taken as the earliest evidence of Chinese contact with India by sea. See the various translations and divergent commentaries in P. Pelliot, Review of F. Hirth and W. W. Rockhill, Chau Ju-Kua: His Work on the Chinese and Arab Trade of the Twelfth and Thirteenth Centuries, St. Petersburg 1912, TP 2 ser. 13 (1912), 457—461, who accepts the authenticity of the text; G. Fernand, Le K'ouen-Louen et les anciennes navigations interocéaniques dans les mers du Sud, JA 11 ser. 13 (1919), 451—455, identifies *Huang-chih* as the Pallava capital Kanchipuram; Hsü Yün-Ts'iao, JSSS 5.2 (1948), 1—16; Su Chi Ching, Notes on Sze-Cheng-Puh State in Han Shu, JSSS 5.2 (1948), 36—40 (adds Ceylon to the list of countries visited by the envoys); B. Laufer, Chinese Clay Figures (Chicago 1904), 80 n. 2; Idem, Arabic and Chinese Trade in Walrus and Narwhale Ivory, TP ser. 14 (1913), 323, n. 2 places *Huang-chih* on the Malay Peninsula and believes that the text refers to the two-horned rhinoceros of Malaya, Sumatra and Borneo; G. H. Luce, Fu-kan-tu-lu, JBRS 14.2 (1924), 97—99; so also Han Wai Toon, JSSS 5.2 (1948), 17—20; cf. scepticism of J. J. L. Duyvendak, China's Discovery of Africa (London 1949), 9—11. A further theory holds that *Huang-chih* was to be located in Sumatra; see J. C. van Eerde, De oudste berichten omtrent den Indischen Archipel, TKNAG 45 (1928), 589—590; J. C. Lumster, Handelsreizen in Oost Indië voor 2000 jaar, ibid., 991—998; R. Delbrück, BJ 155/56 (1955/56), 56, n. 175; L. Petech, On Huang-chih, E&W n. s. 17 (1967), 299—301. P. Wheatley, Possible References to the Malay Peninsula in the Annals of the Former Han, JMBRAS 30.1 (1957), 115—121 places *Huang-chih* in India; Wang Gungwu, JMBRAS 31.2 (1958), 19—22 accepts *Huang-chih* as Kanchi in South India. Cf. V. A. Velgus, Some Problems of the History of Navigation in the Indian and Pacific Oceans, in: The Countries and Peoples of the East (Moscow 1974), 52, 81, n. 18 who accepts the identification of South India but notes that Sumatra deserves serious consideration.

[1092] Herrmann's view that the two-horned rhinoceros is confined to Africa is erroneous. In fact the two-horned rhinoceros (*Didermocerus sumatrensis*) existed in Indonesia and its diffusion here is confirmed by finds of remains of this creature at the Niah cave excavations in Borneo, see Lord Medway, Niah Cave Animal Bone VIII: Rhinoceros in late

Quaternary Borneo, SMJ 12 (1965), 77—81. The existence of the creature is confirmed by Chinese texts, see H. Imbert, Les rhinocéros de la Chine et de l'Indochine d'après les anciens textes, Revue Indochinoise 24 (1921), 217—230. The most detailed discussion of the chronology of this mission is found in V. A. Velgus, in: The Countries and Peoples of the East, 50—63 who argues that the 'Han shu' has conflated two missions: the one in the period 110—87 B.C. possibly went from China to India, the other was an Indian mission which arrived in South China in 1 B.C./A.D. 2.

[1093] For Chinese pottery excavated on Borneo, Sumatra and Java, one with an inscribed date equivalent to 45 B.C. see E. W. V. O. de Flines, De keramische verzameling, JKBGKW 3 (1936), 209, 217; Idem, ibid. 4 (1937), 176—178; Idem, ibid. 5 (1938), 160 to 161. For the discovery of unique fragments of Former Han pottery in India see K. M. Panikhar, India and China through the Ages, AR 48 (1952), 89.

[1094] So W. Stutterheim, The Meaning of the Kala-Makala Ornament, IAL 3 (1929), 49—51; R. Braddell, An Introduction to the Study of the Ancient Times in the Malay Peninsula and the Straits of Malacca, JMBRAS 17.1 (1939), 147—148; Idem, Notes on Ancient Times in Malaya, JMBRAS 20.2 (1947), 7—18; H. G. Q. Wales, The Sabaeans and Possible Egyptian Influences in Indonesia, JMBRAS 23.3 (1950), 36—42; H. von Wissmann, Geographische Grundlagen und Frühzeit der Geschichte Südarabiens, Saeculum 4.1 (1953), 69; G. R. Tibbetts, Pre-Islamic Arabia and South-East Asia, JMBRAS 29.3 (1956), 185—189, 192—207; P. K. Hitti, History of the Arabs, 9th ed. (New York 1968), 49; P. J. Thomas, KSP 2 ser. 10 (1932), 259.

[1095] So C. Lassen, Indische Alterthumskunde, 1 (Leipzig 1875), 538—539; M. R. Haig, The Indus Delta Country: A Memoir (London 1894), 26; J. Hornell, Sea-trade in Early Times, Antiquity 15 (1941), 244; G. F. Hourani, Arab Seafaring, 9; J. Schreiden, Les entreprises navales du roi Solomon, AIPHOS 13 (1953), 587—590; cf. G. R. Tibbetts, JMBRAS 29.3 (1956), 185—187, who even goes so far as to suggest Malaya; so also J. I. Miller, Spice Trade, 260—267. Solomon's Red Sea activity described in I Kings 9.26—28 has been confirmed by excavations at Tell el-Kheleifel, Solomon's port of Ezion-geber. See N. Glueck, Ezion-geber, BibArch 28.3 (1965), 70—87. Also possibly to be connected with this activity are some of the ancient remains on the fortified island of Jezirat Fara'un south of Elath in the Gulf of Aqaba, see A. Hashim Shoni, in: B. Rothenberg, Timna': Valley of the Biblical Copper Mines (London 1972), 202—207; B. Rothenberg, God's Wilderness: Discoveries in the Sinai (London 1961), 185—189; A Hebrew ostracon from Tell Qasile mentions 30 shekels of Ophir gold, B. Maisler, Two Hebrew Ostraca from Tell Qasile, JNES 10 (1951), 226, no. 2 (eighth century B.C.).

[1096] W. Muss-Arnolt, TAPhA 23 (1892), 115; R. Braddell, JMBRAS 17.1 (1939), 148. Cf. J. Hubaux and M. Leroy, Le mythe du Phénix dans les littératures grecque et latine (Paris 1959), 90—92.

[1097] It is accepted (in fact argued anew) by J. I. Miller, Spice Trade, 260—267. As evidence for his bizarre theories Miller cites the stone monuments at Sungai Udang claiming that one is remarkably similar to Phoenician anchor-stones (pls. 1—3). This is, in fact, not the case, see H. Frost, From Rope to Chain — On the Development of Anchors in the Mediterranean, MM 49.1 (1963), 8—15; Idem, The Stone Anchors of Ugarit, Ugaritica 6 (1969), 235—243; Idem, Bronze Age Stone-Anchors from the Eastern Mediterranean, MM 56.4 (1970), 380—391, who collects the evidence for stone anchors from the sea and from land sites. It is ironic that Miller chooses for comparison precisely that style of anchor from Byblos which is found so rarely in the Mediterranean that it has led to the suggestion that, like the Egyptians, the people of Byblos were reluctant to travel abroad, see H. Frost, Stone-Anchors as Indications of Early Trade Routes, in: M. Mollat, Sociétés, 55—57, and A. Nibbi, Egyptian Anchors, JEA 61 (1975), 39—41. One possibility which Miller ignored is that the monuments he cites are Buddhist *linga* stones, see for example a similar-shaped stone from Na Khom, Thailand, in: S. J. O'CONNOR, Si Chon: An Early Settlement in Peninsular Thailand, JSS 56 (1968), 14, fig. 7.

[1098] See literature cited above n. 1060.

[1099] For beads identified as Cypriote and Phoenician by H. C. BECK see G. B. GARDNER, Ancient Beads from the Johore River as Evidence of an Early Link by Sea between Malaya and the Roman Empire, JRAS (1937), 467—470; R. BRADDELL, JMBRAS 20.2 (1947), 1—18; ibid., 20.1 (1947), 178—179; H. G. Q. WALES, Archaeological Researches on Ancient Indian Colonization in Malaya, JMBRAS 18.1 (1940), 60—61, who refers to further finds of 'Roman' beads. See also BECK's comments on glass beads from slab graves at Sungkai and Slim in Perak in H. D. COLLINGS, Recent Finds of Iron-Age sites in Southern Perak and Selanger, Federated Malay States, BRM ser. B 1.2 (1937), 91—92: again BECK traces a number of beads back to Egypt or 'Europe'. More generally on the bead finds as proof of Roman exports to the Far East see H. C. BECK, Notes on Sundry Asiatic Beads, Man 30 (Oct. 1934), art. no. 134, p. 178; G. G. SELIGMAN and H. C. BECK, BMFEA 10 (1938), 14—15. So also M. P. CHARLESWORTH, in: Johnson Studies, 173 n. 17; J. FILLIOZAT, Les relations, 8.

[1100] For example, in the 1920's when VAN DER HOOP visited Sumatra, he found the natives excavating megalithic burials to obtain the beads found there; see A. N. J. TH. A. TH. VAN DER HOOP, Megalithic Remains in South Sumatra (Zutphen 1932), 48—50. The religious importance of glass beads and bracelets results in their preservation for centuries, see I. DE BEAUCLAIR, 'Ken-pai', A Glass Bracelet from Yap, AP 5 (1961), 113—115. Also on the use of ancient excavated beads as currency among the natives of Indonesia see R. VON HEINE-GELDERN, Prehistoric Research in the Netherlands Indies, in: Science and Scientists in the Netherlands Indies (New York 1945), 146. Beads identical to those excavated at the Sarawak Delta sites are still worn by present-day Borneo tribesmen, see T. HARRISSON and S. J. O'CONNOR, The Prehistoric Iron Industry in the Sarawak River Delta: Evidence by Association, SMJ 16 (1968), 35; cf. also T. HARRISSON, Ancient Glass Beads from Brunei and Sarawak Excavations (Compared), BMJ 3.1 (1973), 122.

On the continued use of T'ang, Ming and early Thai stoneware and beads by the Kelabits of the Borneo uplands see P. D. R. WILLIAMS-HUNT, Recent Archaeological Discoveries in Malaya (1951), JMBRAS 25.1 (1952), 188; T. HARRISSON, The Prehistory of Borneo, AP 13 (1970), 26—27, 29—31. The continued reuse of beads for centuries in remote parts of the Sudan is documented by A. J. ARKELL, Cambay and the Bead Trade, Antiquity 10 (1936), 292—293.

[1101] Kota Tinggi and Johore Lama may, in fact, be dated to the fifteenth century, see A. LAMB, Notes on beads from Johor Lama and Kota Tinggi, JMBRAS 37.1 (1964), 88—97, which includes a copy of the report on these beads by H. C. BECK, upon which GARDNER had relied, from the files of the Kuala Lumpur Museum; IDEM, A Note on Glass Beads from the Malay Peninsula, JGS 8 (1966), 80—94. The glass beads from Sungkai and Slim also come from Iron-Age sites, suggesting a much later period than assigned to them by BECK; see excavation report by H. D. COLLINGS, BRM ser. B 1.2 (1937), 75—85. The slab graves of Southern Perak and the village site of Tanjong Rawa, which yielded 'Roman glass beads', are dated on the basis of Chinese porcelain to the ninth and tenth centuries, see P. J. LOEWENSTEIN, The Origin of the Malayan Metal Age, JMBRAS 29.2 (1956), 57—58, 74—77.

[1102] See H. G. Q. WALES, Archaeological Researches on Ancient Indian Colonization in Malaya, JMBRAS 18.1 (1940), 5—7 for Bukit Choras dated to the fourth century; Sungai Batu, various remains of the sixth century, 11—16; see esp. 67—68 where WALES points out that the finds of 'Roman' beads are virtually the only archaeological evidence for Indian settlement in Malaya before c. A. D. 300. All of this has been revised; see A. LAMB, Some Notes on the Distribution of Indianised Sites in Kedah, JSSS 15.1/2 (1959), 109. For the late dating of Sungai Batu Pahat and other sites in Kedah see A. LAMB, Report on the

Excavation and Reconstruction of Chandi Bukit Batu Pahat, Central Kedah, FMJ n. s. 5 (1960), 104—106 who suggests a date in the eighth or ninth century. Similarly a date in the sixth century or later is suggested for the important sites on the major land routes across the isthmus of Kra: Takuapa, Chaiya and Nakorn Sri Thammarat, see A. Lamb, FMJ n. s. 6 (1961), 73—76.

[1103] See for example the stratified site at Kuala Selinsing which has yielded large quantities of glass beads and bangles. The site is not occupied until after c. A. D. 600; see the reports on the beads found in I. H. N. Evans, On Ancient Remains from Kuala Selinsing, Perak, JFMSM 12 (1928), 122—128; Idem, Further Notes on Remains from Kuala Selinsing, Perak, JFMSM 12 (1928), 139—140, 142; Idem, A Further Note on the Kuala Selinsing Settlement, JFMSM 12 (1929), 181—183, Idem, Notes on Recent Finds at Kuala Selinsing, JFMSM 15 (1929), 25—27 (includes a report on late Sung ware from the site). The site was extensively explored in 1961 and the bead assemblage was dated to the tenth century and later, A. Lamb, Kedah and Takuapa: Some Tentative Historical Conclusions, FMJ n. s. 6 (1961), 82. For the relationship of glass bead finds at Kota Batu (only a very few before about the tenth century) and Sungai Lumut, Brunei, and in the Sarawak Delta sites to absolute chronology determined by radiocarbon analysis and pottery dating see T. Harrisson, Deep Level Carbon Dates from Kota Batu, Brunei (95 B.C. to 1300 A.D.), BMJ 2.3 (1971), 96—107; Idem, Further Radio-Carbon (C-14) Dates from Kota Batu, Brunei — Back to 12,500 B.C., BMJ 2.4 (1972), 210, 213; Idem, BMJ 3.1 (1973), 118—126; L. Burke, Beads from Sungai Lumut, Brunei, BMJ 2.3 (1971), 89—95.

[1104] A high lead content is usually considered to be an attribute of Chinese beads, see literature above p. 739. See also T. Harrisson, Monochrome Glass Beads from Malaysia and Elsewhere, Man 64 (March/April, 1964), art. no. 50, 39—40. For the lead content of some of the glass excavated from Taxila see the analyses in B. B. Lal, Examination of Some Ancient Indian Glass Specimens, AI 8 (1952), 20—22.

[1105] Two sources are suggested by the analyses published by T. Harrisson, Man 64 (March/April, 1964), 37—41; cf. the very varied results obtained from the glass from Borneo sites, Idem, New Analyses of Excavated Prehistoric Glass from Borneo, AP 11 (1968), 125—133. On the use of such 'statistically distinct' types of glass to trace the region where an article was manufactured see comments of E. V. Sayre and R. W. Smith, in: M. Levey, Archaeological Chemistry: A Symposium, 280—293, 307.

[1106] On this type of bead see the survey of finds from within the Roman Empire by G. C. Boon, Gilt Glass Beads from Caerleon and Elsewhere, BBCS 22 (1966), 104—109 who concludes that this type of bead was manufactured in Egypt. See also such beads found in India at Ahichchhatra, cf. M. G. Dikshit, Beads from Ahichchhatrā, U. P., AI 8 (1952), 57—58 who argues that they are of local manufacture. For such beads from Kuala Selinsing see I. H. N. Evans, JFMSM 15 (1932), 96—97; Idem, JFMSM 12 (1928), 123—124; cf. C. G. Seligman, Antiquity 11 (1937), 17 who incorrectly refers all such beads to Egypt.

[1107] The sherds were found in March 1951 after guano seekers had dug up the deposits in a cave which had contained a Neolithic habitation. For the original excavation and the text of P. E. Corbett's report see P. D. R. Williams-Hunt, Archaeological Discoveries in Malaya, 1951, JMBRAS 25.1 (1952), 186—188; also L. Wall, Prehistoric Earthwares: Pottery Common to Sarawak and Malaya, SMJ 10 (1962), 422—423 on the Neolithic ware from this site. Subsequent inspection of the material collected from this cave revealed that in fact 6 fragments rather than the 2 cited by W.-H. were found and fragments of 5 additional similar vessels have also been identified, see B. A. V. Peacock, A Short description of Malayan Prehistoric Pottery, AP 3 (1959), 142, 148, 153—154 who is also unable to find any local parallel to these sherds.

[1108] Before chronological conclusions can be drawn about the arrival of this 'Greek ware' it should be remembered that few clues exist to date the local pottery found with these intrusive sherds. Malayan pottery similar to that discovered at Tengku Lembu has been found in slab-graves containing iron implements of the *tulang mawas* type and T'ang or Sung wares and dated to the late first millennium of our era (see below n. 1688). Also in the excavations at Nyong in Pahang Neolithic pottery has been found in the same stratum as Chinese porcelain, see J. H. N. Evans, Excavations at Nyong, Tembeling River, Pahang, JFMSM 15 (1931), 58—59, cf. B. A. V. Peacock, AP 3 (1959), 151—153. The general conclusion must be that while Neolithic pottery found in the same cave as the intrusive blackware can possibly be dated to a period well within the present era there is no reason to base theories about early trade on this evidence. See also the critical remarks of A. Lamb, Kedah and Takuapa: Some Tentative Historical Conclusions, FMJ n. s. 6 (1961), 72. Pottery with a black shiny surface has been found in Iron Age slab-built graves at Changkat Manteri, Perak, see I. H. N. Evans, On Slab-built Graves in Perak, JFMSM 12 (1928), 116 cf. also pottery with a black coating which upon analysis was found to contain 16% ferraginous inorganic material, see H. D. Collings, BRM ser. B 1.2 (1937), 93.

[1109] Cited as such by G. Coedès, The Indianized States of Southeast Asia (Honolulu 1968), 269 n. 20.

[1110] E. g. W. Stutterheim, IAL 3 (1929), 49—51 believed he could identify Sabaean script on Javanese temples. This is pure fabrication but it is cited as evidence of the 'Sabaean thalassocracy' hypothesis.

[1111] G. F. Hourani, Arab Seafaring, 4—11. A clue about the antiquity of Arabian commerce may be provided by the fact that many words of Persian origin occur in the technical vocabulary of Arab navigation, so G. Ferrand, L'élément persan dans les textes nautiques arabes, JA 204 (1924), 193—207; G. F. Hourani, op. cit., 65—66, and R. B. Serjeant, Maritime Customary Law of the Arabian Coasts, in: M. Mollat (ed.), Sociétés, 199.

Early remains from the coastal regions of the south are rare as are epigraphical records, see H. von Wissmann and M. Höfner, Beiträge zur historischen Geographie des vorislamischen Südarabien, AbhAWWGeist.-Soz. Kl. (1952), no. 4, 86—93; note the scarcity of remains at Aden and on the Bay of Bīr 'Alī (probably to be identified with ancient Qana). The lengthy fortification wall which stretches north from Aden is also undatable, see R. A. B. Hamilton, Archaeological Sites in the Western Aden Protectorate, GJ 101 (1943), 112—113. A more recent survey of ancient Qana has revealed the presence of two harbours and very considerable ancient remains but no date for the ruins has been suggested, see B. Doe, Ḥuṣn Al-Gurab and the Site of Qana, Le Muséon 74 (1961), 191—198; also D. B. Doe, Pottery Sites near Aden, JRAS (1963), 156—162; B. Doe, Southern Arabia, 123—127. Qana appears in a single inscription, Ry. 533, see G. Ryckmans, Inscriptions Sud-Arabes, douzième série, Le Muséon 68 (1955), 298—302.

The religious sanctions against the consumption of fish prevalent in Syria and elsewhere in the Near East (cf. R. Pettazzoni, La confession des péchés en Syrie aux époques préchrétiennes, in: Mélanges syriens offerts à R. Dussaud 1.197—202) were introduced into Southern Arabia and may well have discouraged fishing as a maritime activity. For public confessions from Medinet Haram and Kaminah see G. Ryckmans, La confession publique des péchés en Arabie Méridionale préislamique, Le Muséon 58 (1945), 1—14.

[1112] See in general H. von Wissman, Saeculum 4.1 (1953), 64—70, 83—84. Others have attributed the prosperity of ancient South Arabia to trade in oriental products, so J. Partsch, BKSGW 68.2 (1916), 36—37. For agricultural texts from the kingdom of Qataban see N. Rhodokanakis, Die Bodenwirtschaft im alten Südarabien, AAWW (1916), no. 26; Idem, Katabanische Texte zur Bodenwirtschaft, SAWW 194.2 (1919); ibid., 198.2 (1922). The texts published by Rhodokanakis indicate that in the early kingdoms of Saba and Qataban both royalty and the temples relied for their revenues on agricultural production. For an irrigation inscription from Wadi Beihan see J. Pirenne, Une législation hydrologique en Arabie du Sud antique, in: Hommages à Dupont-Sommer (Paris 1971), 117—135. For irrigation texts from Marib see Ja. 735 and 851, cf. also the references to irrigation in Ja. 550 (published: A. Jamme, Sabaean Inscriptions from Maḥram Bilqîs

[Mârib] [Baltimore 1962], pp. 9—10, 211—212, 251—252). The usual form of offerings such as Ja. 735 and Sh. 18 indicates that they are made by the people of Marib, the tribe of Saba' (*š'bn/sb'*). Another such text, Fa. 71 (published: G. RYCKMANS, in: A. FAKHRY, An Archaeological Journey to Yemen 2 [Cairo 1952], pp. 41—44) is an offering by 'Alhān Nahfān *mlk/sb'* the son of Yarīm 'Ayman, *mlk/sb'*. Fa. 71 and Sh. 18 are republished with a detailed commentary by A. G. LOUNDINE, Deux inscriptions sabéennes de Marib, Le Muséon 86.1/2 (1973), 179—192 who dates both texts to A. D. 182. This indicates that irrigation remained an important element in the economy of South Arabia throughout the period in which the spice trade was at its height. Unfortunately LOUNDINE'S precise dating is open to serious criticism. It is based on his and J. RYCKMANS' reconstruction of South Arabian chronology (discussed below n. 1223 in relation to the 'Periplus') which established absolute dates by assuming that the plague mentioned in CIH 81 and Ja 645 is that of the reign of Marcus Aurelius; see A. G. LOUNDINE and J. RYCKMANS, Nouvelles données sur la chronologie des rois de Saba et ḏū-Raydān, Le Muséon 77 (1964), 414—421 and on Sabaean irrigation, A. G. LOUNDINE, Yada''Il Darih, fils de Samhu'alay, Mukarrib de Saba', XXV Congrès International des Orientalistes (Moscow 1960), 7—8. For the establishment of Sabaean agricultural colonies in Southern Arabia see M. HÖFNER, Die Beduinen in den vorislamischen arabischen Inschriften, in: L'Antica Società Beduina, Studi Semitici 2 (Rome 1959), 63—64 (commenting on two inscriptions, FAKHRY 3 and 76).

For remains of ancient irrigation systems see G. W. VAN BEEK (ed.), Hajar Bīn Ḥumeid: Investigations at a Pre-Islamic Site in South Arabia (Baltimore 1969), 367—368 cf. 399—402 where an analysis of the plant impressions on pottery from the site are published; included are oats, barley, millet, grapes, flax, cumin and sesame; traces of other ancient irrigation systems are discussed by H. VON WISSMAN, Zur Archäologie und antiken Geographie von Südarabien (Istanbul 1968), 28—34, 49—50. The most detailed description of the remains of irrigation canals, ancient field systems and other traces of cultivation is that of the remains in Wadi Beiḥan and Wadi Ḥarīb by R. LEBARON BOWEN, in: IDEM and F. P. ALBRIGHT, Archaeological Discoveries in South Arabia (Baltimore 1958), 43—131 (with numerous maps and plates, based on aerial photography and ground surveys); for a system of aqueducts on hills about Wadi 'Amd in the Hadhramaut see F. STARK, An Exploration in the Hadhramaut and Journey to the Coast, GJ 93 (1939), 3—4. Further north a Lihyanite text from Dedan refers to the repair of a well and cistern complex: JAUSSEN and SAVIGNAC, Mission Archéologique en Arabie II (Paris 1914), no. Lih. 177 (Semitic inscriptions from this publication cited hereafter as JAUSSEN and SAVIGNAC, Mission II) = W. CASKEL, Lihyan und Lihyanisch, Abh. Arbeitsgemeinschaft für Forschung des Landes Nordrhein-Westfalen, H. 4 (Cologne 1952), no. 69 (cited henceforth as CASKEL, Lihyan). The Minaean colonists who moved up the trade-route from the south were also in part interested in agriculture: JAUSSEN and SAVIGNAC, Mission, II. no. Lih. 313 = CASKEL, Lihyan, no. 67, cf. late Lihyanite texts such as CASKEL, Lihyan, nos. 105 and 106 which are both agricultural texts. Agricultural labourers are mentioned also in VAN DER BRANDEN, Textes thamoudéens, II. no. Ph. 266(c) (from Jebel Ghumaim, Taima province) and Ph. 279(bh) (Khabu Sharqi, Taima prov.) and cotton growing in Ph. 271(ai) (Barq el-Riba', Taima prov.). A Sabaean inscription from Hamumat, Ja 2152, refers to gardens, see A. JAMME, Lihyanite, Sabaean and Thamudic Inscriptions from Western Saudi Arabia, RSO 45.1/2 (1970), 90.

[1113] For South Arabian inscriptions found in Mesopotamia at Ur and Erek see E. BURROWS, A New Kind of Old Arabic Writing from Ur, JRAS (1927), 795—806; cf. W. F. ALBRIGHT, The Chaldean Inscriptions in Proto-Arabic Script, BASOR 128 (1952), 39—45. Cf. a date of c. 1200 B. C. for beginning of caravan trade in W. F. ALBRIGHT, Zur Chronologie des vorislamischen Arabien, in: J. HEMPEL and L. ROST (eds.), Von Ugarit nach Qumran: Otto Eisfeldt-Festschrift (Berlin 1961), 2—3. The use of the overland route to Palestine has also been dated as far back as the twelfth to tenth centuries B. C. by G. W. VAN BEEK, BibArch 23.3 (1960), 77. An important piece of evidence cited to confirm such an early date is a Southern Arabian clay stamp found at Bethel in 1957, see G. W. VAN

BEEK and A. JAMME, An Inscribed South Arabian Clay Stamp from Bethel, BASOR 151 (1958), 9—16; G. W. VAN BEEK, BibArch 23.3 (1960), 81 with date of tenth to eighth century B. C.; also A. JAMME and G. W. VAN BEEK, The South Arabian Stamp from Bethel Again, BASOR 163 (1961), 17—18. This object has, however, become the subject of a heated controversy. Y. YADIN, An Inscribed South Arabian Clay Stamp from Bethel?, BASOR 196 (1969), 37—46 has argued that the clay stamp alleged to have been found at Bethel was in fact found by BENT in Hadhramaut and did not reach Bethel until after 1926, whence KELSO excavated it in 1957. Answered by G. W. VAN BEEK and A. JAMME, The Authenticity of the Bethel Stamp Seal, BASOR 199 (1970), 59—65 and J. L. KELSO, A Reply to Yadin's Article on the Finding of the Bethel Seal, BASOR 199 (1970), 65; see also the detailed examination of P. BONESCHI, Antique inscription Sud-Arabe d'un supposé cachet provenant de Beytin (Béthel), RSO 46.3/4 (1971), 149—165, who demonstrates that the BENT and KELSO fragments are similar but not the same. A circular tripod vessel with a South Arabian inscription has reportedly been found at Ur, T. C. MITCHELL, A South Arabian Tripod Offering Saucer Said to be from Ur, Iraq 31.2 (1969), 112—114. The earliest radiocarbon date for a Sabaean pottery complex is 852 ± 160 B.C. from Hajar Bin Humeid, G. W. VAN BEEK, A Radiocarbon Date for Early South Arabia, BASOR 143 (1956), 6—9.

RES 3022 = Iscrizioni Minee no. 247 is a dedication of a structure to the town of Matil by two individuals in gratitude to the god 'Attar for the protection of their caravan and its safe return to Ma'īn during the war between MṢR and MḎY. The caravan was engaged in commerce with Miṣr, 'Ašur and 'Ibr Nuharan, i. e. in part with Gaza and Egypt. Previous hypothesis had attributed the events described to the Persian campaigns against Egypt in either 525 B. C. or 343 B. C. For text and chronology see M. HÖFNER, K. MLAKER and N. RHODOKHANAKIS, Zur altsüdarabischen Epigraphie und Archäologie II, WZKM 41 (1934), 69—86, 94—106. Cf. J. PIRENNE, Paléographie des inscriptions sud-arabes. Contribution à la chronologie et à l'histoire de l'Arabie du Sud 1: Des origines à l'époque himyarite (Bruxelles 1956), 211—215, who, having first concluded that the inscription belongs palaeographically to E2, that is, 220—205 B. C., argues that the events described refer to Antiochus III's invasion of Palestine in 218—217 B. C., i. e., the Seleucids are the MḎY (the Medes) of our inscription. But there can be no doubt that Greeks, whether living in Egypt or in Syria and Mesopotamia, stood out from their native neighbours by their Greekness. In the Semitic world Yāwān in the Hellenistic period came to mean specifically the Seleucid kingdom, see C. C. TORREY, 'Yāwān' and 'Hellas' as Designation of the Seleucid Empire, JAOS 25 (1904), 302—311. There thus exists no possibility that Iscr. Min. no. 247 can be dated into the Hellenistic period. Although she did not note this, PIRENNE would have found some support in older interpretations of the famous Egyptian 'Potter's Oracle'. For the identification of ἡ τῶν Περσῶν πόλις and ἡ τῶν ζωνοφόρων πόλις with the Seleucids see W. STRUVE, Zum Töpferorakel, in: Raccolta Lumbroso, 275—278, who dates the text to the reign of Ptolemy III. Cf. now L. KOENEN, Die Prophezeiungen des 'Töpfers', ZPE 2.3 (1968), 180—181 who notes that ζωνοφόρος in fact refers to the Greeks and that the city so described is Alexandria. KOENEN (pp. 186—192) proposes a date of composition of c. 130 B.C. P_2. 16—17 of KOENEN's text does indeed contain a reference to the Seleucid king but not as a Persian: καὶ κ]α̣θήξει δὲ ἐκ Συρίας, ὃ⟨ς⟩ μισ̣ητὸ̣ς ἔ̣σ̣τ̣α̣ι̣ πᾶσι⟨ν⟩ ἀνθρώ̣ποις.

I have devoted considerable space to the discussion of PIRENNE's dates for this text, since much of her palaeographic chronology hinges upon this text. Her error suggests that most of her scheme should be dismissed and with it her reconstruction of South Arabian chronology.

The use of the spice route through Arabia presupposes the domestication of the camel. This is placed c. 1100 B. C. by K. SCHAUENBURG, Die Cameliden im Altertum, BJ 157 (1957), 60. The domestication of the camel and the rise of the incense trade are usually considered to have gone hand in hand, see C. RATHJENS, Sabaeica, MMVH 24 (1953—55), 11—19, and see now R. W. BULLIET, The Camel and the Wheel, 57—67, who dates the incense trade back to c. 2000 B.C. Cf. M. M. RIPINSKY, The Camel in Ancient Arabia, Antiquity 49 (1975), 295—298, who argues for the fourth millennium B.C.

[1114] Cf. the Hierodouloi lists from Qarnawu in Ma'īn. In these inscriptions 68 places of origin are mentioned including Gaza (Ghazzat) 27 times, Egypt 8 times, Greece once and Sidon once. See K. MLAKER, Die Hierodulenlisten von Ma'īn, nebst Untersuchungen zur altsüdarabischen Rechtsgeschichte und Chronologie, Sammlung Orientalistischer Arbeiten 15 (Leipzig 1943), 18—29; RES 2773, 3445 bis and 3898; now republished as Iscr. Min. nos. 392—398. For the fifth century date M. HÖFNER and H. VON WISSMANN, Beiträge, 8,73; cf. W. F. ALBRIGHT, The Chronology of the Minaean Kings of Arabia, BASOR 129 (1953), 23, n. 12. A. G. LOUNDINE, Sotsial'no-ekonomicheskie dannye Sabejskikh posviatitel'nykh nadpisej perioda Mukarribov, VDI (1962), 3.106—107; J. RYCKMANS, Les 'Hierodulenlisten' de Ma'īn et la colonisation minéenne, in: Scrinium Lovaniense (Louvain 1961), 51—61.

For the antiquity of the overland routes across the Sinai into Egypt see A. H. GARDINER, The Ancient Military Road between Egypt and Palestine, JEA 6 (1920), 99—116 and map (on the El-Kantareh-Gaza road).

A small bronze Peloponnesian statuette from Timna' has been dated to the second half of the sixth century B. C., see J. D. BEAZLEY, An Archaic Greek Statuette from South Arabia, ABSA 40 (1939—40), 83—86; B. SEGALL, The Arts and King Nabonidus, AJA 59 (1955), 315—318, pl. 93,1—3; J. PIRENNE, Chronique d'archéologie sud-arabe, 1955—1956, Annales d'Éthiopie 2 (1957), 46—47. See also G. GARBINI, La datazione della statua sudarabica di Ma'adkarib, OA 5.1 (1966), 59—65; J. PIRENNE, Notes d'archéologie sud-arabe, Syria 49 (1972), 202—203, who finds influence of fifth and fourth century B. C. Cypriote art on the bronze statues from Marib. A bronze female figurine bearing a Sabaean inscription and said to have been found near Nejran is apparently a local copy derived from Greek prototypes, see G. VAN BEEK and A. JAMME, A Hellenistic Bronze Figurine from South Arabia, JNES 35.3 (1976), 195—198. A bronze head showing distinct Classical influence was found at an unknown site in the Yemen, see R. P. HINKS, A Bronze Head from the Yemen lent by H.M. the King, BMQ 11 (1936/37), 153—154, pl. XLI. A bronze lion's head, reportedly from Ukhdud, which bears a short South Arabian inscription also shows similar influence, see S. SMITH, Bronze Lion's Head from Najran, S. Arabia, ibid., 154—156, pl. XLII. A number of further interesting indications of the impact of Classical sculpture are published by B. DOE, Southern Arabia, pl. 38 a bronze statue of a nude youth of unknown provenance which is either a Hellenistic import or locally produced by Greek artists, pl. 42 a cast bronze portrait head which shows western influence as does pl. 43, a bronze head last seen at Sana. The arrival of Mediterranean imports by sea may be deduced from the Rhodian amphorae fragments of the second century B.C. found on the surface at Qana, see G. MATHEW, in: H. N. CHITTICK and R. I. ROTBERG (eds.), East Africa and the Orient, 159. These were also common at the time in Alexandria, see P. M. FRASER, Ptolemaic Alexandria 1. 165—166 (in 1965 about 80,000 amphora handles); at Tell Athrib, K. MICHALOWSKI, Les fouilles polonaises à Tell Atrib (1957—1959), ASAE 57 (1962), 50, 63.

[1115] So J. I. MILLER, Spice Trade, 154—155; M. DETIENNE, Les jardins d'Adonis, 38.

[1116] See Herodotus III.110—111, who tells of fierce birds which protect the cassia and cinnamon in Southern Arabia. The account of Herodotus is repeated with some variations in a fragment of the early third century writer Julius Africanus. The text comes from an unpublished MS, Vaticanus graecus 284, and bears the title: ἐκ τῶν 'Αφρικανοῦ κεστῶν (περὶ) τοῦ κινναμώμου. See text and commentary by J. R. VEILLEFOND, Un fragment inédite de Julius Africanus, REG 46 (1933), 197—203. Agatharchides, who was well informed about the region of the Red Sea, also noted that cassia and cinnamon grew among the Sabaeans, see Agatharchides frag. 97 (= GGM I. p. 186) describing the land of the Sabaeans: Εὐωδία τε γὰρ αὐτὴν πᾶσαν ἐπέχει φυσικὴ διὰ τὸ πάντα σχεδὸν τὰ ταῖς ὀσμαῖς πρωτεύοντα φύεσθαι κατὰ τὴν χώραν ἀνέκλειπτα. Κατὰ μὲν γὰρ τὴν παράλιον φύεται τὸ καλούμενον βάλσαμον καὶ κασία καὶ πόα τις ἄλλη ἰδιάζουσαν φύσιν ἔχουσα· αὕτη δὲ πρόσφατος μὲν οὖσα τοῖς ὄμμασι προσηνεστάτην παρέχεται τέρψιν, ἐγχρονισθεῖσα δὲ συντόμως γίνεται ἐξίτηλος. Κατὰ δὲ τὴν μεσόγειον ὑπάρχουσι δρυμοὶ συνηρεφεῖς, καθ' οὓς ἐστι δένδρα μεγάλα λιβανωτοῦ καὶ σμύρνης, πρὸς δὲ τούτοις φοίνικος καὶ καλάμου καὶ κινναμώμου καὶ τῶν ἄλλων τῶν τούτοις ὁμοίαν ἐχόντων τὴν εὐωδίαν. Hipparchus places the Κινναμωφόρος γῆ in Africa south of Meroe (apud Strabo II.5.35). So also Eratosthenes apud Strabo I.4.2; Onesicritus places cinnamon in Arabia and Ethiopia as well as India, FGrHist. no. 134. F 22 = Strabo XV. 1. 22: ἔχειν δὲ καὶ κιννάμωμον καὶ νάρδον καὶ τὰ ἄλλα ἀρώματα τὴν νότιον γῆν τὴν Ἰνδικήν, ὁμοίως ὥσπερ τὴν Ἀραβίαν καὶ τὴν Αἰθιοπίαν ἔχουσάν τι ἐμφερὲς ἐκείναις κατὰ τοὺς ἡλίους· But the reliability of the information about India is somewhat suspect, since it comes in the midst of a description of India as a self-sufficient utopian state; see on this L. PEARSON, The Lost Histories of Alexander the Great (Cleveland 1960), 102—105. Artemidorus places cinnamon and cassia among the Sabaeans: τοσαῦτα δ' ἔστι τὸ πλῆθος, ὥστ' ἀντὶ φρυγάνων καὶ τῆς καυσίμου ὕλης χρῆσθαι κινναμώμῳ καὶ κασσίᾳ καὶ τοῖς ἄλλοις. (apud Strabo XVI. 4. 19). Strabo himself situates the cinnamon-producing lands inland from the East African port of Daphnus (XVI. 4. 14; XVII. 1. 1). Other unnamed authors (possibly Posidonius, cf. FGrHist. no. 87. F 96) place the source of cassia and cinnamon in Arabia. Dioscurides notes that cassia comes from Arabia and Africa: κασσίας δέ ἐστὶ πλείονα εἴδη περὶ τὴν ἀρωματοφόρον Ἀραβίαν γεννώμενα· (I. 13. 1) and τρίτη δέ ἐστιν ἡ καλουμένη βάτος Μοσυλῖτις (I. 13. 2). So also cinnamon: κινναμώμου ἐστὶ πλείονα εἴδη ὀνομαζόμενα ἐπιχωρίως. διαφέρει δὲ τὸ Μόσυλον διὰ τὸ σῴζειν ποσὴν ἐμφέρειαν πρὸς τὴν Μοσυλῖτιν καλουμένην κασσίαν (Dios. I. 14. 1). Pliny states (from Juba; cf. F. MÜNZER, Quellenkritik, 18—19) that both spices come from Ethiopia (NH XII. 85—98). On the mythical and fabulous elements in many of these accounts see M. DETIENNE, Les jardins d'Adonis, 19—68. HENNIG notes that true cinnamon is not attested in Ceylon until the thirteenth century; see R. HENNIG, Terrae Incognitae (Leiden 1938), 3.90—91, and IDEM, Κιννάμωμον und κινναμωφόρος χώρα in der antiken Literatur, Klio N. F. 32 (1939), 327 and even later in Burma, G. H. LUCE, JBRS 30.1 (1940), 294.

[1117] M. G. RASCHKE, Papyrological Evidence for Ptolemaic and Roman Trade with India, in: Proceedings of the XIV International Congress of Papyrologists, Oxford 24—31 July, 1974 (London 1975), 243—244. I wish here to express my gratitude to Dr. jur. J. HENGSTL of the 'Institut für Papyrusforschung und antike Rechtsgeschichte' in Marburg who facilitated my work by furnishing a list of references from the 'Wörterbuch' file.

[1118] P. Hib. II.211; PSI V.485; VI.628; P. Cair. Zen. IV.59536; A. E. HANSON, A Ptolemaic List of Aromata and Honey, TAPhA 103 (1972), 161—165. Line 14 of P. Cair. Zen. IV. 59536 reads κασίας κο[.... Cassia is usually not measured in cotyles; however, line 16 reads [κινν]αμώμου κο(τύλαι) ιε. Frequently the 'ο' in the abbreviation for cotyle is a mere dot between the arms of the 'κ' (no plate of 59536 has been published); cf. commentary on P. Cair. Zen. 59702, UPZ 149 and TAPhA 103 (1972), 165 n. 8. The amounts in P. Cair. Zen. 59536 are:

λιβάνου Μιναίου	τά(λαντα)	δ
καὶ Γερραίου	τά(λαντα)	ε
ζμύρνης	τά(λαντα)	α
[καὶ] κασίας	κο[	
[κινν]αμώμου	κο(τύλαι)	ιε

Pepper does appear to be mentioned in a very fragmentary medical recipe palaeographically dated to the late third century B.C., SB VIII.9860.c.

[1119] See text of P. Cair. Zen. 59536. The amounts in this document are slightly larger than those in Seleucus' gift to Didyma, OGIS I.214. ll 58—60 = WELLES, RC no. 5: λιβανωτοῦ τάλαντα δέκα, σμύρνης τάλαντον ἓν κασίας μναῖ δύο, κινναμώμου μναῖ δύο. For the dating of the letter early in the third century B. C. see W. GÜNTHER, Das Orakel von Didyma in der hellenistischen Zeit (Tübingen 1971), 43—47. Cf. also Callixenus of Rhodes (FGrHist. no. 627. F 2) lists the spices carried in the *pompe* of Philadelphus: κάμηλοι δ' αἱ μὲν ἔφερον λιβανωτοῦ μνᾶς τριακοσίας, σμύρνης τριακοσίας, κρόκου καὶ κασσίας, καὶ κινναμώμου καὶ ἴριδος καὶ τῶν λοιπῶν ἀρωμάτων διακοσίας. For the date of the procession c. 271/270 B. C. see W. Otto, Beiträge zur Seleukidengeschichte des 3. Jahrhunderts vor Chr., ABAW 84 (1928), 6—9, who describes the *pompe* as a victory procession after the victorious Syrian War, see F. Caspari, Studien zu dem Kallixenos fragment Athenaios 5, 197e—203b, Hermes 68 (1933), 400—401, 407—408. It is thus possible that some of what was carried in the procession was loot.

It has been argued that the Ἰνδαὶ γυναῖκες, Ἰνδικοὶ βόες and λίθοι Ἰνδικοί, which were seen in the same procession, were imported from India through Sabaean middlemen, so H. Bengtson and W. Otto, ABAW N. F. 17 (1938), 194—195. The significance of the ethnic Ἰνδικός was questioned by E. H. Warmington, Commerce^2, 145—146. For the uncertain meaning of Ἰνδικός and Ἰνδός see below n. 1269.

[1120] For an alternative meaning of cassia in the Roman period see A. C. Andrews, Marjoram as a spice in the Classical Era, CPh 56 (1961), 76.

[1121] Periplus c. 8 (= Frisk, p. 3. 30—31) (of the East African port of Malao): Ἐκφέρεται δὲ ἀπὸ τῶν τόπων τούτων καὶ σμύρνα καὶ λίβανος ὁ περατικὸς ὀλίγος καὶ κασ[σ]ία σκληροτέρα . . . .; c. 10 (= Frisk, p. 4. 9—10) (on the port of Mosyllum in the same area): Ἐξάγεται δὲ ἀπὸ τῶν τόπων κασίας χύμα πλεῖστον — ⟨δι⟩ ὃ καὶ μειζόνων πλοίων χρῄζει τὸ ἐμπόριον — . . . . ; more important is c. 13 (= Frisk, p. 5. 3—4) (on Opone): τὸ δὲ πλεῖστον ἐν αὐτῇ γεννᾶται κασία καὶ ἄρωμα . . . ; and c. 12 (= Frisk, p. 4. 27) (on Ἀρωμάτων ἐμπόριον): γίνεται δὲ τὰ ἐν ἀυτῷ κασία . . . ; cf. on the sense of the verb here B. G. Mandilaras, The Verb in the Greek Non-Literary Papyri (Athens 1973), § 229.

The passages above leave no room for doubt that cassia is produced in East Africa (so c. 12 and 13) and exported from its ports in large quantities (c. 10). Detienne's arguments about the schematic and mythical nature of all ancient literary accounts of the Spicelands do not apply to a first-hand observer like the author of the 'Periplus'; see M. Detienne, Les jardins d'Adonis, 19—68. See also Cosmas Indicopleustes, who, like the author of the Periplus, was personally acquainted with this area (Top. Chret. II.49 [W.—C.]): Ἔστι δὲ ἡ χώρα ἡ λιβανωτοφόρος εἰς τὰ ἄκρα τῆς Αἰθιοπίας ,μεσόγειος μὲν οὖσα, τὸν δὲ Ὠκεανὸν ἐπέκεινα ἔχουσα, ὅθεν καὶ οἱ τὴν Βαρβαρίαν οἰκοῦντες, ὡς ἐγγύθεν ὄντες, ἀνερχόμενοι εἰς τὰ μεσόγεια καὶ πραγματευόμενοι κομίζουσιν ἐξ ἀυτῶν τὰ πλεῖστα τῶν ἡδυσμάτων, λίβανον, κασίαν, κάλαμον καὶ ἕτερα πολλά, καὶ αὐτὰ πάλιν διὰ θαλάσσης κομίζουσιν ἐν τῇ Ἀδούλῃ καὶ ἐν τῷ Ὁμηρίτῃ καὶ ἐν τῇ ἐσωτέρᾳ Ἰνδίᾳ καὶ ἐν τῇ Περσίδι.

[1122] See especially D. K. Bassett, English Trade in the Celebes 1613—1667, JMBRAS 31.1 (1958), 1—39; H. R. C. Wright, The Moluccan Spice Monopoly 1770—1824, JMBRAS 31.4 (1958), 1—116; C. G. F. Simkin, The Traditional Trade of Asia (London 1968), 191—202.

[1123] See M. H. Pognon, Notes lexicographiques et textes Assyriens inédites, JA 11 ser. 8 (1917), 400—401 n. 4; E. Masson, Recherches, 48. For the meaning of cassia see E. Ebeling, Orientalia n.s. 17 (1947), 136. The view held by some scholars that cinnamon has an Indian etymology is nonsense, e. g. G. R. Tibbetts, JMBRAS 29.3 (1956), 193 n. 43.

Both pepper and cinnamon or cassia are mentioned in the Kharoṣṭhī documents, e.g., Kh. Inscr. no. 102 gives two names for pepper: *marica* and *pipali*, and *tvaca* in the same document meaning cinnamon or cassia-bark, see Burrow, Language, 96, who compares Sanskrit *tvaca*; cf. R. C. Agrawala, Food and Drinks as Depicted in the Kharoṣṭhī Documents from Central Asia, JOIB (1955), 341.

[1124] It was this absence which led to the formulation of the hypothesis discussed above; see for example J. Partsch, BKSGW 68.2 (1916), 36—37; J. I. Miller, Spice Trade, 156.

[1125] B. Laufer, Sino-Iranica, 542—543: "It must be positively denied, however, that the Chinese or any nation of Indo-China had any share in the trade which brought cinnamon to the Semites, Egyptians or Greeks at the time of Herodotus or earlier . . . . First, there is no valid reason to assume that what our modern botany understands by cassia and cinnamon must be strictly identical with the products so named by the ancients. Several different species are evidently involved. It is perfectly conceivable that in ancient times there was a fragrant bark supplied by a certain tree of Ethiopia or Arabia or both, which is either extinct or unknown to us, or, as FEE inclines to think, a species of Amyris." Without reference to LAUFER the same conclusion is urged by R. HENNIG, Klio N.F. 32 (1939), 325—330. There are a considerable number of varieties of aromatic plants in Southern Arabia, see A. GROHMANN, Südarabien, 157—161.

There is also a European aromatic plant (confused by Pliny, NH XII.98: *quin et in nostro orbe* (cassia) *seritur, extremoque in margine imperii, qua Rhenus adluit, vidi in alveariis apium satam; color abest ille torridus sole, et ob id simul idem odor*), which bears the name cassia. On this plant see W. THISELTON-DYER, On Some Plant-Names, JPh 33 (1914), 197—199. The most probable identity of the plant is marjoram, so THISELTON-DYER and also A. C. ANDREWS, Marjoram as a Spice in the Classical Era, CPh 56.2 (1961), 76.

[1126] Cf. the layer of red glossy material found on mummies, P. H. K. GRAY, An Account of a Mummy in the County Museum and Art Gallery, Truro, JEA 56 (1970), 132. The chemical analysis of the liquid from two *unguentaria* revealed the presence of olive oil but no indication of the spice added to scent the oil, see D. BARAG, Two Roman Glass Bottles with Remnants of Oil, IEJ 22.1 (1972), 24—26 and A. BASCH, Analyses of Oil from Two Roman Glass Bottles, ibid., 27—32.

[1127] Both spices could be used in mummification (see A. LUCAS, Ancient Egyptian Materials^3, 344—346) and an analysis of the aromatics used in mummification at Palmyra indicates that a resinous aromatic substance in addition of myrrh was used, see R. PFISTER, Textiles de Palmyre 1 (Paris 1934), 11—12. The fullest list of analyses of the resinous substances from Egyptian mummies was published by A. LUCAS, Preservative Materials used by the Ancient Egyptians in Embalming (Cairo 1911), 22—34; the only substance which could be identified with any certainty was myrrh. For the use of cassia and cinnamon in embalming see Herodotus II.86 and Diodorus, I.91.6. For the resinous nature of what the ancients termed cinnamon see Pliny, NH XII.94.

[1128] For the supporters of this view see above, n. 1080.

[1129] It has been argued on the basis of Hdt. II.158—159 that the canal was begun by Necho and only completed by Darius I, so F. OERTEL, in: Festgabe Braubach, 38—42. POSENER concluded that there was no good evidence for the existence of the Pre-Persian canal, see G. POSENER, Le Canal du Nil à la Mer Rouge avant les Ptolémées, CE 13 (1938), 259—271. Darius commemorated his deed in Old Persian, Akkadian, Elamite and hieroglyphic Egyptian. For the three hieroglyphic texts (which constitute the most extensive record), see G. POSENER, La première domination Perse en Égypte: Recueil d'inscriptions hiéroglyphiques (Cairo 1936), pp. 48—87, nos. 8—10; for the Old Persian text see R. G. KENT, Old Persian^2 (New Haven 1953), DZa–c (pp. 146—147); also R. G. KENT, Old Persian Texts, JNES 1 (1942), 415—421; for the date of the canal see G. G. CAMERON, Darius, Egypt and the Lands Beyond the Seas, JNES 2 (1943), 311—313; cf. IDEM, Darius the Great and his Scythian (Saka) Campaign, Bisitun and Herodotus, AcIr 2 ser. 1 (1975), 83—84. A redating of the construction of the canal to the last part of Darius' reign has been made possible by the discovery of the Egyptian statue of Darius at Susa in 1972 (below, n. 1130). The inscriptions on the statue and DZc assume Darius' personal presence in Egypt, see J. YOYOTTE, Les inscriptions hiéroglyphiques, Darius et l'Egypte, JA 260 (1972), 266; cf. W. HINZ, Darius und der Suezkanal, AMI N.F. 8 (1975), 115—121, who with the aid of the above texts and the PFT argues that the canal was completed by 498 B.C. and personally opened by Darius in 497 B.C.

[1130] R. G. KENT, Old Persian^2, DZc (p. 147): "Saith Darius the King: I am a Persian, from Persia I seized Egypt; I gave order to dig this canal from a river by name Nile which flows in Egypt, to the sea which goes from Persia. Afterward this canal was dug thus as I had ordered, and ships went from Egypt through this canal to Persia thus as was my desire." The roads from Coptos to the Red Sea ports were also in use during the Persian period, see the hieroglyphic inscriptions from Wadi Hammamat, COUYAT and MONTET, Inscriptions du Ouadi Hammamat, nos. 146, 50, 266, 106, 164, 148, 13, 144—145, 72, 95 = POSENER, Première domination, nos. 24—35; a further text of the reign of Darius I is published in GOYON, Nouvelles inscriptions rupestres du Wadi Hammamat, no. 109; also a cartouche of Darius I was noted at Bir Wasif to the west of Philoteras, see F. BISSON DE LA ROQUE, BSRGE 11 (1922), 133 n. 2; cf. also A. DUPONT-SOMMER, Une inscription araméenne inédite de l'Ouadi Hammamat, RAssyr. 41 (1947), 105—110. The large statue of Darius I found in the excavations at Susa early in 1972 also came from Egypt via the sea route, see J. YOYOTTE, Les inscriptions hiéroglyphiques égyptiennes de la statue de Darius, CRAI (1973), 256—259 and IDEM, Les inscriptions hiéroglyphiques, Darius et l'Egypte, JA 260 (1972), 253—266 for the hieroglyphic inscription on the statue; see F. VALLUT, La triple inscription cunéiforme de la statue de Darius Ier, RAssyr. 68.2 (1974), 157—166, figs. 1—4. Les textes cunéiformes de la statue de Darius, CDAFI 4 (1974), 161—170; M. ROAF, The Subject Peoples on the Base of the Statue of Darius, ibid., 73—159; J. YOYOTTE, Les inscriptions hiéroglyphiques de la statue de Darius à Suse, ibid., 181—183; A. V. EDAKOV, Novye nadpisi Akhemenidov, VDI (1976), 1. 92—96; G. G. CAMERON, AcIr 2 ser. 1 (1975), 84—87; for a description of the statue see D. STRONACH, La statue de Darius le Grand découverte à Suse, CDAFI 4 (1974), 61—72; the attribution of the statue of Egypt has not been conclusively confirmed by petrological analysis, see J. TRICHET and P. POUPET, Étude pétrographique de la roche constituant la statue de Darius découverte à Suse, en Décembre 1972, ibid., 57—59.

[1131] Scylax sailed from the Indus to the Red Sea. Herodotus' short account makes no mention of the Persian Gulf, but he almost certainly sailed into it as well, Hdt. IV.44, cf. J. O. THOMSON, History of Ancient Geography, 80—81; R. DELBRUECK, BJ 155/56 (1955/56), 20; F. OERTEL, in: Festgabe Braubach, 22—23. The most extensive discussion of Scylax is in H. SCHIWEK, BJ 162 (1962), 8—18; cf. G. WIRTH, Nearchos, Der Flottenchef, Acta Conventus XI 'Eirene' 1968 (Warsaw 1971), 629—630, 634 who views both the voyages of Scylax and Nearchus as the explorations of *'Handelsstraßen'*. For the possible political purpose of this exploration see V. MARTIN, La politique des Achéménides: l'exploration prélude de la conquête, MH 22 (1965), 43.

[1132] In fact all of the epigraphic evidence for the use of sea routes from Egypt to Persia indicates that their use was primarily to transport tribute and officials to Persia.

[1133] It is frequently forgotten that the simple establishment of a culture by a body of water does not necessarily make that culture maritime; see the excellent observations on this point made by C. S. CHARD, Time Depth and Culture Process in Maritime Northeast Asia, AP 5 (1961), 213—216. The reasoning found, for example, in VAN BEEK's works, that the references to Arab navigation in the 'Periplus '(see texts cited n. 836) "must go back to the middle of the first millenium B.C. and probably earlier" is utter nonsense; see G. W. VAN BEEK, JAOS 78 (1958), 146.
For the poor quality of the natural harbours on the Red Sea see J. W. CROWFOOT, Some Red Sea Ports in the Anglo-Egyptian Sudan, GJ 37.5 (1911), 538.

[1134] The earliest inscriptions from Ethiopia have close affinities with the boustrophedon texts of the monumental period in Southern Arabian epigraphy. The dates for these early Ethiopian texts thus vary with the chronology one accepts for the Arabian inscriptions. For a boustrophedon inscription from Tigre in Ethiopia in South Arabian characters see J.E. no. 4, in: A. CAQUOT and A. J. DREWES, Fouilles et reconnaissances: Les monuments recueillis à Maqalle (Tigre), Annales d'Éthiopie 1 (1955), 30—23, cf. J.E. no. 5 an early Ethiopian king named *GDR* on which see A. J. DREWES, Inscriptions de l'Éthiopie Antique (Leiden 1962), 77—79, 87—88. See the various dates suggested for the early Ethiopian inscriptions in A. ANZANI, Le monete dei Re di Aksum, RIN 4 ser. 43 (1941), 85—86: sixth century B.C., but gives no explanation; J. RYCKMANS,

L'origine et l'ordre des lettres de l'alphabet éthiopien, BiOr 12.1 (1955), 3: fourth century B.C.; A. J. Drewes, Nouvelles inscriptions de l'Éthiopie, BiOr 13.5/6 (1956), 180—181: fifth century B.C.; Idem, Inscriptions de l'Éthiopie, 89—100: the earliest Sabaean colonies in Ethiopia were established in about the middle of the fifth century B.C. For Sabaean sculpture with a short archaic Sabaean inscription found at Haoulti see H. de Contenson, Les monuments d'art sud-arabe découverts sur le site de Haoulti (Éthiopie) en 1959, Syria 39 (1962), 64—87.
Most of the early texts come from the central plateau region, from Tigre and from Yeha and Malazo which Drewes has suggested may be early Sabaean colonies, A. J. Drewes, BiOr 13.5/6 (1956), 179—182. For the Sabaean texts at Malazo see also H. de Contenson, Les fouilles archéologiques en Éthiopie de 1956 à 1959, CRAI (1959), 251—252. van Beek's interpretation of this movement as a Sabaean effort to gain a monopoly on all incense producing regions must be dismissed, G. W. van Beek, JAOS 78 (1958), 150. Excavations at Matara, Yeha, Kaskase, Malazo and Haoulti indicate that these towns were among the first settled by immigrants from South Arabia. The pre-Axumite levels at these sites are characterized by a distinctive pottery tradition and an absence of imported Mediterranean pottery and glass, see F. Anfray, L'archéologie d'Axoum en 1972, Paideuma 18 (1972), 68—69, 75—77 and Idem, La poterie de Maṭarā, RSE 22 (1966), 15, 18; Idem, Aspects de l'archéologie ethiopienne, JAH 9.3 (1968), 353—356.

[1135] References to such traffic are frequent: Strabo XVI. 4. 19 (from Artemidorus): τὰ δὲ πλήθη τὰ μὲν γεωργεῖ, τὰ δ' ἐμπορεύεται τὰ ἀρώματα τά τε ἐπιχώρια καὶ τὰ ἀπὸ τῆς Αἰθιοπίας, πλέοντες ἐπ' αὐτὰ διὰ τῶν στενῶν δερματίνοις πλοίοις· cf. Agatharchides frag. 101 (= GGM I. p. 189); cf. H. Schiwek, BJ 162 (1962), 67 n. 506. Such primitive craft were still in use in the days of the 'Periplus', see c. 7 (= Frisk, p. 3. 18—20) on Avalites: Φέρεται δ' ἐξ αὐτῆς, ποτὲ καὶ τῶν Βαρβάρων ἐπὶ σχεδίαις διαπερώντων εἰς τὴν ἄντικρυς ⟨Ὄ⟩κηλιν καὶ Μούζα, ἀρώματα καὶ ἐλέφας ὀλίγος .... Cf. the statement of Strabo XVII. 1. 5: οἱ δ' Αἰθίοπες οὐ πάνυ χρῶνται τῇ Ἐρυθρᾷ θαλάττῃ; see the comments of C. Préaux, Sur les communications de l'Éthiopie avec l'Égypte hellénistique, CE 27 (1952), 270.

[1136] Dhows bound from Aden down the East African coast generally sail close into shore to utilize the currents and variable winds which prevail here rather than using the monsoons blowing in the Gulf of Aden, see B. A. Datoo, Azania 5 (1970), 67. Cf. A. Villiers, Sailing with the Arabs, MM 47 (1961), 250—251, who notes that Arab vessels in the Red Sea sail close into shore and anchor every night. For the coastal voyage down the East African Coast see Idem, Sons of Sinbad (New York 1940), 90—283. Villiers in fact notes (ibid., p. 271) that the masters of the vessels on which he has travelled had no knowledge of astronomical navigation and therefore always made only coasting voyages.

[1137] Periplus c. 15 (= Frisk p. 5. 25—26) refers to sailing παρ' αὐτὴν τὴν Αὐσινίτην ἠιόνα in East Africa. Cf. c. 7 (= Frisk, p. 3. 13—15): Πρῶτος μὲν ὁ λεγόμενος Αὐαλίτης, καθ' ὃν καὶ στενότατός ἐστιν ἀπὸ τῆς Ἀραβικῆς εἰς τὸ πέραν διάπλους. Κατὰ τοῦτον τὸν τόπον μικρὸν ἐμπόριόν ἐστιν ὁ Αὐαλίτης, ... and c. 25 (= Frisk, p. 8. 14—15): τῆς πέραν κατὰ τὸν Αὐαλίτην Βαρβαρικῆς χώρας ... H. v. Wissmann and M. Höfner, Beiträge, 74—75. H. v. Wissmann, Saeculum 4. 1 (1953), 101—102; Idem, Die Südgrenze der Terra Cognita von Juba und Plinius bis Ptolemäus, in: Festschrift H. Kinzl, Schlern Schriften 190 (1958), 313.
The Arabs who came to this coast intermarried with the natives and parts of the region to the south were in the first century under the rule of a South Arabian prince; see Periplus c. 16 (= Frisk, p. 6.6—13): (on Azania) Μέγιστοι δὲ ἐν σώμασιν περὶ ταύτην τὴν χώραν ἄνθρωποι πειραταὶ κατοικοῦσιν καὶ κατὰ τὸν τόπον ἕκαστος ὁμοίως τιθέμενοι τυράννοις. Νέμεται δὲ αὐτήν, κατά τι δίκαιον ἀρχαῖον ὑποπίπτουσαν τῇ βασιλείᾳ τῆς πρώτης γενομένης Ἀραβίας, ὁ Μοφαρίτης τύραννος. Παρὰ δὲ τοῦ βασιλέως ὑπόφορον αὐτὴν ἔχουσιν οἱ ἀπὸ Μούζα καὶ πέμπουσιν εἰς αὐτὴν ἐφόλκια, τὰ πλείονα κυβερνήταις καὶ χρειακοῖς [καὶ] Ἄραψιν χρώμενοι τοῖς κατὰ συνήθειαν καὶ ἐπιγαμβρείαν ἔχουσιν ἐμπείροις τε οὖσιν τῶν τόπων καὶ τῆς φωνῆς αὐτῶν. Cf. Periplus c. 14 (= Frisk,

p. 5.14—16). Müller's emendation πειραταί for ορατοὶ in the MS is rejected by G. Giangrande, On the Text of the Periplus Maris Erythraei, Mnemosyne 4 ser. 28.3 (1975), 293—294 who proposes ἀρόται.

Archaeological investigation along the East African coast has to date failed to turn up significant traces of early Arab occupation which are even close to our period. There are two exceptions but their importance cannot as yet be assessed: at Kisimani Mafia the lowest level yielded a single sherd of Nabataean painted ware but all other material from the site is Islamic, see H. N. Chittick, The Coast of East Africa, in: P. L. Shinnie, The African Iron Age (Oxford 1971), 118, n. 2; at Barawa, a coastal site in Somalia, some sherds of Kwale ware have been found (on the date of this pottery complex see below n. 1141a), see N. Chittick, An Archaeological Reconnaissance of the Southern Somali Coast, Azania 4 (1969), 122. By contrast archaeological investigations in the interior have steadily pushed back the date of the advent of the Iron Age (below n. 1141a) in East Africa. (But here too most of the work has been done in the past two decades and the historical period has perhaps suffered from a concentration on the Stone Age, see the survey of J. C. Onyango-Abuje, The History of Archaeological Research in East Africa from 1890—1970, KHR 2.2 [1974], 251—261). The major excavated coastal sites do not go back past c. A.D. 800 and their period of prosperity is later still in the twelfth to fourteenth centuries: for Gesira, Merka and Barawa dated by surface finds to the ninth century or later see N. Chittick, Azania 4 (1969), 117—118, 122. Pottery from excavations and surface finds at Lamu, Pate and Manda do not take these sites back before the ninth century, see N. Chittick, Discoveries in the Lamu Archipelago, Azania 2 (1967), 37—67; two radiocarbon dates from Manda, A.D. 820 ± 110 and A.D. 520 ± 110 are out of line with the date suggested by associated Chinese porcelain and Islamic pottery, see B. M. Fagan, Radiocarbon Dates for Sub-Saharan Africa: VI, JAH 10.1 (1969), 157 cf. R. C. Soper, New Radiocarbon Dates for Eastern and Southern Africa, JAH 15.2 (1974), 186; at Kilwa the earliest level dates from c. A.D. 800, see N. Chittick, Kilwa: A Preliminary Report, Azania 1 (1966), 4—10; Idem, Kilwa and the Arab Settlement of the East African Coast, JAH 4.2 (1963), 179—190; for a history of the city see G. S. P. Freeman-Grenville, The Medieval History of the Coast of Tanganyika (Berlin 1962), 45—155 and T. H. Elkiss, Kilwa Kisiwani: The Rise of an East African City-State, AfrStRev 16.1 (1973), 119—130; at Kisimani Mafia, apart from the Nabataean sherd mentioned above, most of the material is from the twelfth century or later, G. S. P. Freeman-Grenville, op. cit., 171—172; the earliest material from the well-excavated site of Gedi is from the same period, see J. S. Kirkman, The Arab City of Gedi. Excavations at the Great Mosque. Architecture and Finds (Oxford 1954), 12—16. The ceramic material from the excavations at Ras Mkumbuu on Pemba does not go much further back than the fourteenth century, see J. S. Kirkman, Excavations at Ras Mkumbuu on the Island of Pemba, TNR 53 (1959), 161—175. The furthest site down the coast is also the most recent, see on Sofala, O. R. de Oliveira, Breve Noticia sobre la Arqueologia de Manica e Sofala, BSEM 32 (1963), 53—57; the most recent excavations have found nothing earlier than fifteenth century material, see R. W. Dickinson, The Archaeology of the Sofala Coast, SAAB 30.3/4 (1975), 85—90; but it is possible that earlier occupation sites were submerged or carried away by the sea, see G. Liesegang, Archaeological Sites on the Bay of Sofala, Azania 7 (1972), 149—151. The earliest Arabic inscriptions from a coastal site were found on a tomb at Barawa, A.H. 498/A.D. 1104—05 and another of A.H. 500/A.D. 1106—07 came from Zanzibar, cf. G. S. P. Freeman-Grenville and B. G. Martin, A Preliminary Handlist of the Arabic Inscriptions of the Eastern African Coast, JRAS (1973), 99.

Recorded literary tradition from the various coastal sites places the arrival of immigrants from Persia, Bahrein, Yemen and the Hadhramaut into the ninth to thirteenth centuries, see R. L. Pouwels, Tenth Century Settlement of the East African Coast: The Case for Qarmation/Isma'ili Connections, Azania 9 (1974), 65—74; T. M. Ricks, Persian Gulf Seafaring and East Africa: Ninth-Twelfth Centuries, AfrHistSt 3.2 (1970), 339—357; B. G. Martin, Arab Migrations to East Africa in Medieval Times, IJAHS 7.3 (1975), 367—390.

[1138] The destruction of the kingdom of Ausan took place at the hands of Karib'īl Watar of Saba' (Gl. 1000A). This event is variously dated. H. v. WISSMANN and M. HÖFNER, Beiträge, 69—77 suggest a date before c. 400 B.C. This, however, is based on a statue of Yaṣduq'īl Far'am Sharaḥ'at, king of Ausan, in the Muncherjee collection, the drapery of which is said to resemble Greek drapery of the fifth century. For this piece see J. A. JAUSSEN, Inscriptions himyarites, RB 35 (1926), 549 no. 1, pl. X.1 and H. v. WISSMANN and M. HÖFNER, ibid., pls. 5—6; also for this date H. v. WISSMANN, Festschrift H. Kinzl, 313; so first H. SCHLOBIES, Hellenistisch-römische Denkmäler in Südarabien, FuF 10 (1934), 242. A first-century B.C. date is favoured by J. PIRENNE, Le royaume sud-arabe, 133, 138—140, 199, who compares for the statues from Ausan sculpture from Palmyra and Parthia. Not even an approximate date can be established by this fanciful method; PIRENNE's chronology is accepted by H. v. WISSMANN, Le Muséon 77 (1964), 442; cf. B. DOE, Southern Arabia, 73—74.

[1139] So B. STRUCK, Rhapta, Prasum, Menuthius, Zeitschr. d. Ges. f. Erdkunde zu Berlin (1921), 188—193, 196 on the Kingani River; G. MATHEW, Recent Discoveries in East African Archaeology, Antiquity 27 (1953), 214 suggests the vicinity of Mafia and Kilwa island; cf. H. v. MZIK, Des Klaudios Ptolemaios Einführung, 32—33 n. 4 and 57—59 n. 2 with the suggestion that Rhapta was in the vicinity of Mombasa and Rufiji; H. v. WISSMANN, in: Festschrift H. Kinzl, 313—315 proposes Dar es-Salaam; B. A. DATOO, Azania 5 (1970), 66—69 cautiously suggests limits within which Rhapta must lie: the Pangani (on the north) and the Rufiji Rivers; H. C. BAXTER, Pangani: the Trade Centre of Ancient History, TNR 17 (1944), 17 suggests Pangani (this author's discussion of the 'Periplus' indicates he is unfamiliar with that work in either Greek or translation); so also J. W. T. ALLEN, Rhapta, TNR 27 (1949), 57—59; G. MATHEW, in: R. OLIVER and G. MATHEW (eds.), History of East Africa 1 (London 1963), 97 favours the Rufiji delta; cf. B. S. HOYLE, Early Port Development in East Africa. An Illustration of the Concept of Changing Port Hierarchies, TESG 58 (1967), 95 places the town no further south than the Rufiji delta. In view of what is known about wind and current conditions on the East Africa coast a location for Rhapta beyond the Mozambique Channel is out of the question, see B. A. DATOO, Misconceptions about the use of Monsoons by Dhows in East African Waters, EAGR 8 (1970), 5.

[1140] See H. v. MZIK, Des Klaudios Ptolemaios Einführung, 32—33, n. 4; D. N. MCMASTER, The Ocean-Going Dhow Trade to East Africa, EAGR 4 (1966), 16—17. For currents about Socotra and Cape Gardafui see G. DONQUE, Taloha 1 (1965), 53—55.

[1141] A number of scholars have stressed that the Northeast Monsoon has always been for the natives of the Indian Ocean littoral the major wind for travel and commercial exchange. See G. F. HOURANI, Ancient South Arabian Voyages to India — Rejoinder to G. W. van Beek, JAOS 80.2 (1960), 135—136; W. KIRK, The N. E. Monsoon and Some Aspects of African History, JAH 3.2 (1962), 263—267.

[1141a] For Arab settlements along the coast see above n. 1137. For Arab, Indian and Greek imports into East African ports see Periplus c. 14 (= FRISK, p. 5.8—14): (Opone) Ἐξαρτίζεται δὲ συνήθως καὶ ἀπὸ τῶν ἔσω τόπων τῆς Ἀριακῆς καὶ Βαρυγάζων εἰς τὰ αὐτὰ τὰ τοῦ πέρα⟨ν⟩ ἐμπόρια γένη προχωροῦντα ἀπὸ τῶν τόπων, σῖτος καὶ ὄρυζα καὶ βούτυρον καὶ ἔλαιον σησάμινον καὶ ὀθόνιον, ἥ τε μοναχὴ[ν] καὶ ἡ σαγματογήνη, καὶ περιζώματα καὶ μέλι τὸ καλάμινον τὸ λεγόμενον σάκχαρι. Καὶ οἱ μὲν προηγουμένως εἰς ταῦτα τὰ ἐμπόρια πλέουσιν, οἱ δὲ ⟨κατὰ⟩ τὸν παράπλουν ἀντιφορτίζονται τὰ ἐμπέσοντα; c. 17 (= FRISK, p. 6.14—17): (at Nicon, Sarapion and Rhapta) Εἰσφέρεται δὲ εἰς τὰ ἐμπόρια ταῦτα προηγουμένως ἡ τοπικῶς ἐν Μούζᾳ κατασκευαζομένη λόγχη καὶ πελύκια καὶ μαχαίρια καὶ ὀπήτια καὶ λιθίας ὑαλῆς πλείονα γένη, εἰς δέ τινας τόπους οἰνός τε καὶ σῖτος οὐκ ὀλίγος, οὐ πρὸς ἐργασίαν ἀλλὰ δαπάνης χάριν εἰς φιλανθρωπίαν τῶν Βαρβάρων. For exports from these ports see Periplus c. 17 (= FRISK, p. 6.18—19): Ἐκφέρεται δὲ ἀπὸ τῶν τόπων ἐλέφας πλεῖστος, ἥσσων δὲ τοῦ Ἀδουλι[ν]τικοῦ, καὶ ῥινόκερως καὶ χελώνη διάφορος μετὰ τὴν Ἰνδικὴν καὶ ναύπλιος ὀλίγος. On the basis of these passages some have gone so far as to

compare the penetration of Africa in the time of the 'Periplus' with the intensity of Arab penetration in the late Medieval period, see R. Oliver and J. D. Fage, A Short History of Africa (London 1962), 96. There now exists an abundance of archaeological evidence from East and Central Africa which indicates that inland penetration from the coast appears to have been a rather late phenomenon. It is usually assumed that the major river systems made such journeys a relatively simple task (see R. Mauny, Notes sur le problème Zimbabwé-Sofala, Studia 1 [1958], 181—183), but it has been pointed out that low water-levels in the dry season and rapids during the wet season made the use of overland routes more attractive, cf. F. Balson, Ancient Gold Routes of the Monomotapa Kingdom, GJ 136 (1970), 240—246. On the possible use of the Sabi River for commerce with Zimbabwe see H. V. Sicard, The Ancient Sabi-Zimbabwe Trade Route, NADA 40 (1963), 6—16. The ancient materials of trade were cowrie shells, beads and cloth from the coast and, it is assumed, gold, ivory and copper from the interior. The earliest pottery complexes of the Ziwa Culture in Southern Rhodesia which are associated with early gold mines contain imported glass beads (Ziwa C-14 date: A.D. 300 ± 150), see R. Summers, CA 7.4 (1966), 464; the Early Iron Age pottery site at Kansanshi in the Zambian copper mining district has yielded a date of A.D. 400 ± 90, M. S. Bisson, Archaeology 27.4 (1974), 245. Most of the sites in the Zambian copper belt are dated to the fourth century of our era or later and the remains of early mines have yielded no material from the earliest phase of the Iron Age, see D. W. Phillipson, Early Iron Age Sites on the Zambian Copperbelt, Azania 9 (1974), 93—123 and Idem, The Early Iron Age Site at Kapwirimbwe, Lusaka, Azania 3 (1968), 92—102 (fifth century). In Rhodesia Gokomere, ware which is dated approximately to between A.D. 180 ± 120 (at Mabveni) and A.D. 850 ± 100 (at Malapati), is associated with ancient gold workings, B. Fagan, Early Iron Age Pottery in Eastern and Southern Africa, Azania 1 (1966), 107; the radiocarbon dates from ancient mine workings near Palabora, Transvaal, lie between the eighth and tenth centuries, see B. M. Fagan, Radiocarbon Dates for Sub-Saharan Africa: VI, JAH 10.1 (1969), 165—166. The Early Iron Age sites of the rich mining region of South Africa are in general somewhat later, e.g. Sterkspruit, A.D. 490 ± 50, T. M. Evers, Recent Iron Age Research in the Eastern Transvaal, South Africa, SAAB 30.3/4 (1975), 71—82 (on excavations at Harmony and Eiland). Iron Age activity is attested for many mining sites in this area e.g. the tin mines at Rooiberg, the gold mines at Doornpoort as well as other sites at Buispoort and Palabora, but none of these sites, except the Uitkomst cave which yielded a single cowrie shell, show signs of contact with the cost, and all of them are dated well beyond the period of Graeco-Roman coastal trade, see R. Mason, Prehistory of the Transvaal (Johannesburg 1962), 387—432.

The earliest interior site which has yielded extensive evidence of such trade is Ingombwe Ilede which may have played an important role in the ivory trade in the seventh century (C-14: A.D. 680 ± 50). The burials here, particularly those from the last phases, yielded gold and glass beads, sea shells and copper ingots, see B. Fagan, Southern Africa During the Iron Age (London 1965), 94—99; Idem, CA 7.4 (1966), 458—459; Idem, Early Trade and Raw Materials in South Central Africa, JAH 10.1 (1969), 10—12; cf. D. W. Phillipson and B. M. Fagan, The Date of the Ingombwe Ilede Burials, JAH 10.2 (1969), 199—204 who redate the rich late graves from the ninth century into the fourteenth and fifteenth centuries. Half a cowrie shell has been found in excavations at Engaruka, but the C-14 dates for the site, A.D. 330 ± 90 and 720 ± 120 are questioned by the excavator, see H. Sassoon, Engaruka: Excavations during 1964, Azania 1 (1966), 92 and J. E. G. Sutton, The Archaeology and Early Peoples of the Highlands of Kenya and Northern Tanzania, Azania 1 (1966), 54; a sea shell was found at Kalundu (A.D. 455 ± 95) and two at Gundu (A.D. 440 ± 85), see B. M. Fagan, JAH 10.1 (1969), 9; a *conus* sea-shell was found at Gokomere in a level yielding a date of A.D. 530 ± 120, B. Fagan, Southern Africa, 93; a *conus* shell and several cowrie shells were found at Broederstroom, Transvaal, with material radiocarbon dated to A.D. 460 ± 50, see R. J. Mason, First Early Iron Age Settlement in South Africa: Broederstroom, 24/73, Brits District, Transvaal, SAJS 69 (1973), 324 and A. M. van Genderen, Personal Ornament in the Early Iron Age of the Transvaal: New Discoveries at Site 24/73, Broederstroom, Transvaal, South Africa, SAJS 70 (1974), 218. Although no early maritime oriented coastal sites have as yet been found a number of Early Iron Age sites have now been found near the coast of Kenya and Tanzania but these show no signs of foreign imports. This is particularly true of the sites of the Kwale pottery complex; at Kwale the C-14 dates are A.D. 270 ± 115 and A.D. 260 ± 115 (with iron and slag), see R. S. SOPER, Kwale: An Early Iron Age Site in South-Eastern Kenya, Azania 2 (1967), 1—17; two further dates in Azania 3 (1968), 209: A.D. 50 ± 120 and 120 ± 120; six sites in the Usambara Mountains yielded Kwale pottery: Bogolo, Zigua, Mwele, Kazita, Mlaza and Shungii, also Bombo in the South Pare Hills (A.D. 220 ± 115), see R. SOPER, Iron Age Sites in North Eastern Tanzania, Azania 2 (1967), 21, 24; other Kwale sites with early radiocarbon dates have been found at Urewe and Yala Alego, see R. C. SOPER, Radiocarbon Dating of 'Dimple-Based Ware' in Western Kenya, Azania 4 (1969), 148—153; IDEM, Early Iron Age Pottery Types from East Africa: Comparative Analysis, Azania 6 (1971), 40, 51; at a number of sites on the slopes of Kilimanjaro: Ol Molog, Mwika (A.D. 210 ± 350), Kirima, Old Moschi, Lombeta, Machame Kisiki, see K. ODNER, A Preliminary Report on an Archaeological Survey on the Slopes of Kilimanjaro, Azania 6 (1971), 135—139; in the North Pare Mountains: at Makandeni Mafingiro, Makandeni Mpungini, Kilaweni, Urare, Mruma and Usangi Hospital, K. ODNER, Usangi Hospital and the Archaeological Sites in the North Pare Mountains, North-Eastern Tanzania, Azania 6 (1971), 104—105, 109—111, 120; at Nkope Bay in Malawi (A.D. 360 ± 120), K. R. ROBINSON, Iron Age Excavations Undertaken in Southern Malawi during 1968, Azania 4 (1969), 147; Barawa on the Somali coast which has sometimes been identified with Nicon in the 'Periplus' has also yielded some sherds of Kwale ware, see N. CHITTICK, Azania 4 (1969), 122; at the Amboni cave site near the Kenyan coastal town of Tanga Group-C pottery, thought to be somewhat later than Kwale ware, has been found (C-14: A.D. 360 ± 130), see R. SOPER, Azania 2 (1967), 31; see in general J. E. G. SUTTON, The Interior of East Africa, in: P. L. SHINNIE (ed.), The African Iron Age (Oxford 1971), 152—154. Although new excavations may change the picture drastically, at the moment it appears that the sites of the Kwale Culture which appear to have been contemporary with Arab, Indian and Graeco-Roman trade were not the least affected by foreign imports.

As has been pointed out, the discovery of a few glass beads or sea-shells in the interior does not represent an inland penetration of coastal traders. Such articles were passed from hand to hand by an established inland regional barter system in essential commodities such as copper and salt which much later formed the the basis for the routes used in the ivory and slave trade, see J. VANSIN, Long Distance Trade Routes in Central Africa, JAH 3 (1962), 375—390; B. M. FAGAN, JAH 10.1 (1969), 1—13; IDEM, Early Trade in South Central Africa, Archaeology 22.1 (1969), 44—50; E. W. HERBERT, Aspects of the Use of Copper in Pre-Colonial Africa, JAH 14.2 (1973), 179—194 (pointing out that copper was important not only as a medium of exchange but also as an emblem of status, an object of personal adornment and as a cult object); B. M. FAGAN and J. E. YELLEN, Ivuna: Ancient Salt-Working in Southern Tanzania, Azania 3 (1968), 32—33. There is also no trace in this early period of the tremendous adjustment in value systems, political relations and religious institutions which the later long distance trade with the coast brought about in the interior, see G. W. HARTWIG, Long-Distance Trade and the Evolution of Sorcery among the Kerebe, AfrHistStud 4.3 (1971), 505, 523—524. Such contact is inevitable since in the absence of baggage animals in the tsetse fly zone all goods had to be carried by human caravans and thus any sort of trade implied a good deal of human contact and the movement of considerable numbers of people, see R. CUMMINGS, A Note on the History of Caravan Porters in East Africa, KHR 1.2 (1963), 109—110, 115—119.

The text of the 'Periplus' mentions the import of iron weapons (see above) in Rhapta and this bears on the most important nexus of problems in African pre-historic archaeology: the origins of iron in sub-Saharan Africa. The last decade has seen great progress in the chronology of the African Iron Age but the abundance of radiocarbon dates for Iron Age sites has not solved the major problems. Knowledge of iron production appears in Central and East Africa together with animal husbandry, agriculture and pottery. Archaeologists and ethnologists have grappled with the relationship of the arrival of this complex of cultural attributes to the advent of Bantu-speaking peoples. The origin of the sub-Saharan Iron Age has been attributed to trade with Carthage via trans-Saharan routes, to the Meroitic culture of the Nile, to Ethiopia or even to Roman trade with East Coast Africa (on the latter cf. A. J. ARKELL, The Iron Age in the Sudan, CA 7.4 [1966], 452); see on these controversies, R. MAUNY, The Western Sudan, in: P. L. SHINNIE, op. cit., 66—77 (cf. the rejection of the whole notion of trans-Saharan trade in J. T. SWANSON, IJAHS 8.4 [1975], 582—600); G. A. WAINWRIGHT, The Diffusion of *-uma* as a Name for Iron, UJ 18 (1954), 113—136 (arguing for diffusion from Meroe), so also K. DITTMER, Saeculum 15 (1964), 5; M. POSNANSKY, Bantu-Genesis: Archaeological Reflexions, JAH 9.1 (1968), 1—11 (from West Africa); R. OLIVER, The Problem of Bantu Expansion, JAH 7 (1966), 361—376 (from the southern woodland area); on the Bantu and the Iron Age in Transvaal see R. J. MASON, Transvaal and Natal Iron Age Settlement Revealed by Aerial Photography and Excavation, AfrSt 27.4 (1968), 178; cf. the recent paper of P. R. SCHMIDT, A New Look at Interpretations of the Early Iron Age in East Africa, HA 2 (1975), 129—135 who points out how fragile are all hypotheses which attempt to link the present pattern of radiocarbon dates to generalized linguistic phenomena. Sites dated before c. A.D. 300 are now relatively common in East and Central Africa and usually yield iron implements, slag or furnaces: e.g. Ndora (A.D. 250 ± 100) and Cyamakuza (A.D. 300 ± 80) in Rwanda, B. M. FAGAN, JAH 10.1 (1969), 155—156; Chobi (A.D. 290 ± 125) in Uganda, Rutare (A.D. 295 ± 60, 230 ± 50 B.C.) in Rwanda, Katuruka (450 ± 115 B.C., A.D. 60 ± 115, 550 ± 115 B.C.) and Makongo (A.D. 40 ± 100) in Tanzania, J. E. G. SUTTON, New Radiocarbon Dates for Eastern and Southern Africa, JAH 13.1 (1972), 8—11; the first occupation phase at Katuruka is particularly important and two further C-14 dates have been published: 610 ± 100 B.C., 520 ± 110 B.C. These early dates are associated with a brick-built furnace for smelting iron ore, see the excavation report of P. R. SCHMIDT, An Investigation of Early and Late Iron Age Cultures through Oral Tradition and Archaeology: An Interdisciplinary Case Study in Buhaya, Tanzania (Ph.D. diss. Northwestern Univ., 1974), 294—299, 364—366, 512—513. A low date of A.D. 96 ± 212 has also been recorded at Machili but this is questioned for a number of reasons, R. SOPER, A General Review of the Early Iron Age of the Southern Half of Africa, Azania 6 (1971), 11; also Lusu (186 ± 150 B.C.) in Zambia, B. FAGAN, Azania 1 (1966), 105. Recently the geographical pattern of early Iron Age dates has come to include the Transvaal also; an Early Iron Age site near Tzaneen has yielded C-14 dates of A.D. 270 ± 55 and 330 ± 50, see M. KLAPWIJK, An Early Iron Age Site near Tzaneen, N.E. Transvaal, SAJS 69 (1973), 324. See in general T. HUFFMAN, The Early Iron Age and the Spread of the Bantu, SAAB 25 (1970), 3—27; R. SOPER, Azania 6 (1971), 5—33; D. W. PHILLIPSON, Iron Age History and Archaeology in Zambia, JAH 15.1 (1974), 1—6 and J. O. VOGEL, Some Early Iron Age Sites in Southern and Western Zambia, Azania 8 (1973), 25—54 (on Early Iron Age sites at Kumadzulo, Kamangoza, Chundu, Musya, Chondwe, Dambwa etc. in Zambia); cf. D. W. PHILLIPSON, The Chronology of the Iron Age in Bantu Africa, JAH 16.3 (1975), 321—342 who uses the numerous radiocarbon dates now known to show that the Lake Victoria region of Urewe ware is the area of earliest iron technology development followed by the Kwale ware of the coastal sites. The primacy of the interior region over the coast and the early dates recorded for some sites eliminates the possibility that iron smelting was introduced by way of Ptolemaic, Graeco-Roman or Arab coastal trade. Since in sub-Saharan Africa, with the possible exception of Mauretania, the Iron Age follows immediately upon the Stone Age any flow of technology from the North African coast seems unlikely. The recent excavations in Nigeria have taken the Iron Age there back to the sixth century B.C. or earlier and thus suggest that in the present state of our knowledge any diffusion west and south from the Nile Valley is unlikely since such dates are earlier than the presently known dates of the Meroitic Iron Age (see below, n. 1535). Nor does the pottery tradition of the Central and East African Iron Age show any dependence on either Meroe or Axum and only the brick-built furnace excavated by Schmidt at Katuruka has any parallels in Meroe (above). However, in parts of Central and East

Africa Stone Age culture survived for many centuries after the arrival of Iron, see B. FAGAN, CA 7.4 (1966), 455—456 (on the Nachikufan caves), 460; S. F. MILLER, Contacts between the Later Stone Age and the Early Iron Age in Southern Central Africa, Azania 4 (1969), 81—90 (at Mabveni, C-14 date of A.D. 180 ± 120); R. MASON, Prehistory of the Transvaal, 378 on Stone Age sites at Olieboompoort and Magabeng with radiocarbon dates early in the present millennium.

[1142] The first reference to the use of the Monsoons occurs in the fragments of the 'Fu Nan Chi' of K'ang T'ai from the mid-third century of our era; see WANG GUNGWU, The Nanhai Trade: A Study of the Early History of Chinese Trade in the South China Sea, JMBRAS 31.2 (1958), 39.

[1143] So G. F. HOURANI, Arab Seafaring, 28; IDEM, Ancient South Arabian Voyages to India — Rejoinder to G. W. van Beek, JAOS 80.2 (1960), 135—136; cf. G. W. VAN BEEK, Pre-Islamic South Arabian Shipping in the Indian Ocean — A Surrejoinder, JAOS 80.2 (1960), 136—139. The evidence VAN BEEK cites in fact does not, contrary to what he believes, "point to the inescapable conclusion that the ancient South Arabian fleets sailed with the Southwest Monsoon in the course of their trading ventures". Cf. G. R. TIBBETTS, Arab Navigation in the Indian Ocean before the Coming of the Portugese, OTF 42 (London 1971), 364—370, who describes the sailing calendar of various parts of the Indian Ocean littoral noting that on the South Arabian coast and in Northwest India the peak of the Southwest Monsoon is marked by a cessation of navigation and a closing of all ports because of the rough seas experienced at this time. See also B. A. DATOO, EAGR 8 (1970), 1, who notes that dhows use the Southwest Monsoon for voyages along the African coast, but that from mid-May to mid-August such voyages were impossible for the lightly built Arab dhows; cf. D. M. MCMASTER, EAGR 4 (1966), 17—18, who states that in June and July the seas to the east of Socotra are dominated by gale-force winds and shrouded in fog and hence are not used by Arab dhows. Most scholars who have studied the modern sailing pattern of the dhows conclude that they are able to utilize the Southwest Monsoon only during its build-up or decline, never at its peak.
Dhows bound from the East African coast for the Persian Gulf usually set out in mid to late April or early May and sail back in November to arrive in January, see A. H. J. PRINS, The Persian Gulf Dhows, Two Variants in Maritime Enterprise, Persica 2 (1965/66), 5—6 with statistics from the port of Lamu in Kenya.
On the construction of Arab dhows see G. F. HOURANI, Arab Seafaring, 91—99; cf. also J. PARTSCH, BKSGW 68.2 (1916), 31—35. J. HORNELL, A Tentative Classification of Arab Sea-Craft, MM 28 (1942), 11—40, who points out (p. 14) that sewn ships escape more easily without damage if they run onto a rock. HORNELL also notes (pp. 36—39) that the largest of the Arab sailing vessels now in use owe much to the influence of European construction and design; so also R. L. BOWEN, Arab Dhows of Eastern Arabia, American Neptune 9.2 (1949), 105—107.

[1144] On the lateen see G. F. HOURANI, Arab Seafaring, 100—105. But cf. L. CASSON, The Origin of the Lateen, The American Neptune 31 (Jan. 1971), 49—51 who argues that this type of sail was developed first by Greco-Roman mariners of the Mediterranean. A study of the numerous ship engravings at Kilwa, Gedi, Songa Mnara, Ungwana, Mtwapa and Ras Mkumbuu on the East African coast shows that lateen rigged vessels are not depicted before the sixteenth century. Earlier depictions show a square vessel similar to the coastal *mtepe*, see P. and M. GARLAKE, Early Ship Engravings of the East African Coast, TNR 63 (1964), 203; on the *mtepe* see A. H. J. PRINS, TNR 53 (1959), 210—213.

[1145] See descriptions in the Periplus c. 60 (= FRISK, p. 20. 6—10): ἐν οἷς τοπικὰ μέν ἐστιν πλοῖα μέχρι Λιμυρικῆς παραλεγόμενα τὴν γῆν, ἕτερα δ' ἐκ μονοξύλων πλοίων μεγίστων ἁφαῖς ἐζευγμένα, λεγόμενα σάνγαρα· τὰ δὲ εἰς τὴν Χρυσῆν καὶ εἰς τὸν Γάγγην διαίροντα κολανδιοφωντα τὰ μέγιστα. The MS reading κολανδιοφωντα τὰ μέγιστα was regarded as corrupt by MÜLLER and variously emended by him and others; MÜLLER, GGM I. pp. ciii, 301 suggests κολάνδια πάντων τὰ μέγιστα, κόλανα διαφέροντα τῷ μεγέθει or κόλανα λέγοντα ὄντα μέγιστα, cf. B. FABRICIUS, Der

Periplus, p. 104 who suggests κολάνδια ὄντα μέγιστα. It was suggested that κολάνδια may be a Malayan word; see P. Meile, Les Yavanas dans l'Inde Tamoule, JA 232 (1940), 90—91 who compares the Tamil word *kalan* or *kalam* for a large ship; cf. more recently, A. Christie, An Obscure Passage from the Periplus: ΚΟΛΑΝΔΙΟΦΩΝΤΑ ΤΑ ΜΕΓΙΣΤΑ, BSOAS 19. 2 (1957), 345—353 who accepts the MS reading of κολανδιοφωντα as a reference to a large type of Southeast Asian merchant ship similar to that described by the Chinese term *k'un-lun po*. The suggestion that the ship is Malayan is also made by J. Partsch, BKSGW 68. 2 (1916), 30 but with the reading Κολανδια.

A two-masted ship also appears on the obverse of some Sātavāhana coins. For finds of coins of this type struck by Sri-Pulumavi see BMC, Andhras, p. 22 nos. 95—96, pl. V; p. 23 nos. 99—104; cf. V. V. Mirashi, A Ship-type Coin of Yajna Satakarṇi, JNSI 3 (1941), 43—45; S. B. Deo, Another Ship-type Coin of Yajna Satakarṇi, JNSI 24 (1962), 174—175 for finds of coins of this type struck by Yajna Satakarni. Some of these coins have also been attributed to the earliest Pallava rulers, see V. Prakash, Coinage of South India (Varanasi 1968), 32, 40 pl. I.6, and B. Lahiri, Early Indigenous Coins of South India, in: D. C. Sircar (ed.), Early Indian Indigenous Coins (Calcutta 1970), 86, 95. A much neglected type of evidence in the study of Indian ship design is found in the cave paintings of Ajanta, of about the sixth century of our era, which depict several different types of Indian ships including two three-masted vessels, see D. Schlingloff, Kalyāṇakārin's Adventures. The Identification of an Ajanta Painting, Artibus Asiae 38.1 (1976), 17—28 who also refers to a relief of a two-masted ship from a cave at Aurangabad.

A ship buried by an earthslide in a river has been found at Pontian in South Pahang, Malaya. No metal was used in the construction of this ship and the strakes and keelpiece were held together by wooden dowels and cord ties of fibre. The ship, about 35 feet long, was loaded with pottery and is dated to the period A.D. 500—1000; see I.H.N. Evans, Notes on the Remains of an old Boat from Pontian, Pahang, JFMSM 12.4 (1927), 93—96; C. A. Gibson-Hill, Further Notes on the old Boat found at Pontian in Southern Pahang, JMBRAS 25.1 (1952), 111—130; cf. P. L. Loewenstein, The Origin of the Malayan Metal Age, JMBRAS 29.2 (1956), 74—78 who re-analysed the pottery and concluded that the ship cannot be dated before the tenth century. In the Medieval period Indian ships of teak logs or coconut palm logs sewn together could be as large as 350—400 tons, see A. Lewis, Maritime Skills in the Indian Ocean, 1368—1500, JESHO 16 (1973), 247—248.

Unlike the Mediterranean, where underwater archaeology has contributed to our knowledge of Roman ship design (see above, n. 838), there has to date been little work of this sort in the Indian Ocean, see A. C. Clarke, Ceylon and the Underwater Archaeologist, Expedition 6.3 (1964), 19—21.

[1146] S. Levi, Les marchands de Mer et leur role dans le bouddhisme primitif, BAFAO (1929), 19—39; V. Mishra, Sea and Land Routes in India as Revealed in the Buddhist Literature, JIH 32.2 (1954), 117—127; R. Delbrueck, BJ 155/56 (1955/56), 40—43.

[1147] See for example: J. Hornell, Sea-trade in Early Times, Antiquity 15 (1941), 246—247; G. R. Tibbetts, JMBRAS 29.3 (1956), 187—188; R. Braddell, Malayadvipa: A Study in Early Indianization, MJTG 9 (1956), 1—2; S. V. Mishra, Sea and Land Trade Routes in India as Revealed in the Buddhist Literature, JIH 32.2 (1954), 117—122; S. Levi, Maṇimekhalā, a Divinity of the Sea, IHQ 6.4 (1930), 597—614, who accepts a date of 400 B.C. or earlier.

[1148] H. Chakraborti, Trade and Commerce of Ancient India (Calcutta 1966), 82—83.

[1149] H. Chakraborti, Trade and Commerce of Ancient India, 79.

[1150] For the late closing dates of the 'Jatakas' and the 'Mahābhārata' see M. Winternitz, History of Indian Literature, 1.475 who argues that the 'Mahābhārata' did not reach its present form until the fourth century of our era, cf. P. Poucha, The Problem of the

Age of the Mahabharata, ArchOr 6 (1934), 53—57 who concludes that some passages at least must fall after the first century.
The Maurya date of the 'Arthaśāstra' has long been under attack and there exist many reasons for assuming a date in the present era; see T. R. Trautmann, Kauṭilya and the Arthaśāstra (Leiden 1971), esp. 174—187 who suggests that the work had several authors and that the important book II is post A.D. 150.

[1151] See literature above n. 1146. Many Indian scholars have supported an early date for the 'Arthaśāstra' on nationalistic grounds and have preferred (in part not incorrectly) to cast doubt on the reliability of Megasthenes whose information is sometimes used to test the age of the 'Arthaśāstra', see R. C. Majumdar, The Indica of Megasthenes, JAOS 78 (1958), 275—276; cf. the rejoinder by K. D. Sethna, JAOS 79 (1959), 243—248.

[1152] Cf. Strabo on the Nabataeans (XVI. 4. 18): οἳ πρότερον μὲν καθ' ἡσυχίαν ἦσαν, ὕστερον δὲ σχεδίαις ἐληίζοντο τοὺς ἐκ τῆς Αἰγύπτου πλέοντας· δίκας δ' ἔτισαν, ἐπελθόντος στόλου καὶ ἐκπορηθήσαντος αὐτούς.; Agatharchides frag. 88 (= GGM I, p. 178) = Diodorus III. 43. 5: οἳ τὸ μὲν παλαιὸν ἐξῆγον δικαιοσύνῃ χρώμενοι καὶ ταῖς ἀπὸ τῶν θρεμμάτων τροφαῖς ἀρκούμενοι, ὕστερον δὲ τῶν ἀπὸ τῆς Ἀλεξανδρείας βασιλέων πλωτὸν τοῖς ἐμπόροις ποιησάντων τὸν πόρον, τοῖς τε ναυαγοῦσιν ἐπετίθεντο καὶ ληστρικὰ σκάφη κατασκευάζοντες ἐλῄστευον τοὺς πλέοντας, μιμούμενοι τὰς ἀγριότητας καὶ παρανομίας τῶν ἐν τῷ Πόντῳ Ταύρων· μετὰ δὲ ταῦτα ληφθέντες ὑπὸ τετρηρικῶν σκαφῶν πελάγιοι προσηκόντως ἐκολάσθησαν. The event is variously dated; see H. Kortenbeutel, Süd- u. Osthandel, 45, 53 who places the action under Ptolemy VIII Euergetes II. Most other scholars correctly prefer Ptolemy Philadelphus, so W. W. Tarn, Ptolemy II and Arabia, JEA 15 (1929), 15; M. Rostovtzeff, SEHHW 1.387; 3.1414 n. 185; F. Altheim and R. Stiehl, Die Araber in der Alten Welt, 1.69—70; D. Woelk, Agatharchides von Knidos, 217—218; cf. H. A. Ormerod, Piracy in the Ancient World (Liverpool 1924, repr. Chicago 1967), 258 who is noncommittal. W. W. Tarn constructed an imaginary expedition by Ptolemy II, on the basis of an obscure reference to 'Parsetet' in the Pithom Stele, to Northwest Arabia to seize the northern terminus of the 'Incense Route'; W. W. Tarn, JEA 15 (1929), 9—25. Rejected by D. Lorton, The Supposed Expedition of Ptolemy II to Persia, JEA 57 (1971), 160—164.

[1153] RES 3427 = Iscr. Min. no. 338. So M. Rostovtzeff, Foreign Commerce of Ptolemaic Egypt, JEBH 4 (1931—32), 743; H. Kortenbeutel, Süd- u. Osthandel, 32; H. Schaal, Vom Tauschhandel zum Welthandel, 141—142; F. Heichelheim, Aegyptus 13 (1933), 191 n. 4; E. Leider, Alexandreia, 52; G. F. Hourani, Arab Seafaring, 21; and still G. W. van Beek, BibArch 23.3 (1960), 81 and E. Woelk, Agatharchides von Knidos, 248—249 following the translation given by N. Rhodokanakis, Die Sarkophaginschrift von Gizeh, ZfS 2 (1924), 113—126.

[1154] Cf. the considerably different reading of l. 2 given by A. F. L. Beeston, Two South-Arabian Inscriptions: Some Suggestions, JRAS (1937), 59—62, who translates line 1 as follows: "(This is) the sarcophagus of ZI̭DᵕL son of ZI̭D of ZI̭RN D̲U̮B, who imported myrrh and calamus perfumes for the temples of Egypt in the days of Ptolemy (Epiphanes ?)." Cf. J. Ryckmans, Himyaritica 2, Le Muséon 79 (1966), 499. The inscription is still cited with the interpretation of Rhodokanakis, followed by Rostovtzeff and others, by F. Altheim and R. Stiehl, Die Araber in der Alten Welt, 1.70, although Beeston's work is listed in his notes (p. 70 n. 3).

[1155] See the description in Agatharchides frag. 92 (= GGM I. p. 181): Μετὰ δὲ τὰς νήσους τὰς ἐκκειμένας ἐστιν ἰδεῖν αἰγιαλὸν λιθώδη καὶ μακρόν; ἡ δὲ χώρα Θαμουδηνῶν Ἀράβων. Ὁ δὲ πρὸς ταύτην παράπλους ἐπὶ σταδίους τῶν χιλίων πλείους πάντων χαλεπώτατος· οὐ γὰρ ἔστιν οὐ λιμὴν εὔορμος, οὐ σάλος ἐπ' ἀγκύρας, οὐ κόλπος ἐπὶ σκέπης, οὐ χηλῆς ἐντύπωμα, ἀναγκαία καταφυγή, τὸν ναυτίλον δεχομένον. Cf. D. Woelk, Agatharchides von Knidos, 221—222.

[1156] Cf. Jaussen and Savignac, Mission II. no. Min. 3 (from Medain Salih) refers to a god who provides protection "on the sea and on the caravan routes".
See also Bernand, De Koptos à Kosseir no. 147, an undated graffito from El-Boueib which bears the name 'Απαταῖ[ος]. This ethnic appears to be derived from the 'Απαταῖοι, a people whom Ptolemy (VI.7.21) placed in Southern Arabia.

[1157] Agatharchides frag. 103 (= GGM I. pp. 190—191 from Photius): Παρὰ δὲ τὴν χώραν ταύτην ἡ μὲν θάλαττα λευκὴ φαίνεται, ποταμῷ ἐμφερής, ὥστε παραπλήττεσθαι τοῦ γινομένου τὴν αἰτίαν, νῆσοι δὲ εὐδαίμονες παράκεινται, ἐν αἷς βοσκήματα λευκὰ μέν ἐστι πάντα, οὐδενὶ δὲ τῶν θηλειῶν ἐπιφύεται κέρας. 'Εν ταύταις ταῖς νήσοις ἰδεῖν ἔστιν ὁρμούσας ἐμπορικὰς τῶν προσχώρων σχεδίας, πλείστας μὲν ἐκεῖθεν οὗ κατεστήσατο παρὰ τὸν 'Ινδὸν ποταμὸν ὁ 'Αλέξανδρος ναύσταθμον, οὐκ ὀλίγας δὲ ἀπὸ τῆς Περσίδος καὶ Καρμανίας καὶ τῆς σύνεγγυς πάσης.

[1158] So W. W. Tarn, JEA 15 (1929), 14; cf. P. Fraser, Ptolemaic Alexandria, 2.300, n. 349.

[1159] Agatharchides frag. 103 from Diodorus (= GGM I. p. 191) has Εἰς ταύτας δ' ἔμποροι πάντοθεν καταπλέουσι, μάλιστα δ' ἐκ Ποτάνας, ἣν 'Αλέξανδρος ᾤκισε παρὰ τὸν 'Ινδὸν ποταμόν, . . .

[1160] Cf. Pausanias VI.26.6—9, who places the Seres on an island in the southern hemisphere. See also the tale told by Iambulus of a voyage to an island Utopia, Diodorus II.55—60, which must be seen as fiction used as a vehicle for philosophy rather than as an actual voyage. Unfortunately H. von Wissmann, in: Festschrift H. Kinzl, 322—323 accepts the novel as a factual account and identifies the island as Madagascar.

[1161] See J. Pirenne, Le royaume sud-arabe, 174—175 n. 26; H. Schiwek, BJ 162 (1962), 88 n. 665; E. Woelk, Agatharchides von Knidos, 250—251; cf. H. v. Wissmann, De Mari Erythraeo, in: Lautensach Festschrift (Stuttgart 1957), 304—305, who suggests Aden and nearby islands.

[1162] Periplus c. 30 (= Frisk, p. 10.9—11). I disagree with Dihle's suggestion that Greeks did not sail past Bab-el Mandeb until the middle of the second century B.C.; cf. A. Dihle, Innsbrucker Beiträge z. Kulturwiss. 4 (1974), 11; so also H. v. Wissmann, Le Muséon 77 (1964), 430—43, with a fanciful theory about a blockade before 115 B.C. which kept Egyptian ships bottled up in the Red Sea.

[1163] See above p. 930 for the evidence of navigation in the Persian period.

[1164] See Onesicritus, FGrHist. no. 134. F12. Cf. E. Peiris, Greek and Roman Contacts with Ceylon, CHJ 70.1/4 (1960/61), 10.

[1165] The earliest literary reference to pepper occurs in a fragment of the fourth-century comic poet Antiphanes: ἂν μὲν ἄρα πέπερι πριάμενός τις εἰσφέρῃ, / στρεβλοῦν γράφουσι τοῦτον ὡς κατάσκοπον (CAF II. p. 125) and also his contemporary Eubulus: κόκκον λαβοῦσα κνίδιον ἢ τοῦ πεπέριδος / τρίψασ' ὁμοῦ σμύρνῃ διάπαττε τὴν ὁδόν (CAF II. p. 210).

[1166] Cf. Plutarch, Sulla 13. 3 (describing the behaviour of the Athenian tyrant Aristion): τῇ δὲ ἱεροφάντιδι πυρῶν ἡμίεκτον προσαιτούσῃ πεπέρεως ἔπεμψε . . .

[1167] Agatharchides frag. 102, from Photius (= GGM I. pp. 189—190): Οὐδὲν γὰρ εὐπορώτερον Σαβαίων καὶ Γερραίων εἶναι δοκεῖ γένος, ἐκτεταμιευμένων πᾶν τὸ πῖπτον εἰς διαφορᾶς λόγον ἀπὸ τῆς 'Ασίας καὶ τῆς Εὐρώπης. Οὗτοι πολύχρυσον τὴν Πτολεμαίου Συρίαν πεποιήκασιν, οὗτοι τῇ Φοινίκων φιλεργίᾳ κατεσκευάκασι λυσιτελεῖς ἐμπορίας, καὶ μυρία ἄλλα.

[1168] P. Cair. Zen. I.59009; 59011 and PSI VI.628 are all part of the same document, so Edgar in P. Cair. Zen. 59009 and U. Wilcken, APF 8 (1927), 277. P. Collart and P. Jouguet, Petites recherches sur l'économie politique des Lagides, in: Raccolta di scritti in onore di G. Lumbroso (Milan 1925), 116 n. 3 suggest this official is in charge of the spice monopoly.

[1169] For the commerce in copper and ivory in the third millennium B.C. with the island market of Telmun see A. L. Oppenheim, JAOS 74 (1954), 6—17. For identification of Telmun or Dilmun with Bahrein see B. Cornwall, On the location of Dilmun, BASOR 103 (1946), 3—5; Idem, Two Letters from Dilmun, JCS 6.4 (1952), 137—142. Cf. also on the commerce of the Mesopotamian cities in the sixth century B.C. M. Lambert, Le destin d'Ur et les routes commerciales, RSO 39 (1964), 89—109. Lambert's view, which sees the policy of Nabonidus in terms of efforts to gain control of trade routes to the South, seems to me to be greatly exaggerated. Much of the problem centres on the identification of *Magan* and *Meluḫḫa* in Old Babylonian and Sumerian texts. Landsberger suggested that in the earlier period the toponyms refer to regions in Arabia near the mouth of the Persian Gulf and slightly farther east, and that in the Assyrian period both names refer to Egypt and Ethiopia: B. Landsberger, ZA 35 (1934), 217; other variations in W. F. Leemans, Foreign Trade, 162—164; E. Herzfeld, The Persian Empire (Wiesbaden 1968), 63; I. J. Gelb, Makkan and Meluḫḫa in Early Mesopotamian Sources, RAssyr 64 (1970), 5—8. Most recently after an examination of all of the texts it is argued that *Magan* and *Meluḫḫa* are to be located in Baluchistan at all times before the late Assyrian period; see J. Hansman, A Periplus of Magan and Meluḫḫa, BSOAS 36.3 (1973), 555—568. Cf. now Idem, A Further Note on Magan and Meluḫḫa, BSOAS 38.3 (1975), 609—610 where he suggests that the toponym included not only eastern Baluchistan but also the Indus delta. For archaeological evidence of Indian imports (e. g. seals) from early Mesopotamian sites see V. G. Childe, India and the West before Darius, Antiquity 13 (1939), 12—13. Cf. in detail on the beads and pottery involved E. Mackay, Further Links between Ancient Sind, Sumer and Elsewhere, Antiquity 5 (1931), 459—469. For seals see C. J. Gadd, Seals of Ancient Indian Style found at Ur, PBA 18 (1932), 10—16; similar stamp seals have also been found by Danish archaeologists on Bahrain (at Qalaat el-Bahrein and Barbar) and Failaka, see G. Biddy, The 'Ancient Indian Style' Seals from Bahrain, Antiquity 32 (1958), 243—244; cf. D. H. Gordon, ibid., 244—246, who doubts if any one of these seals came from India; so also C. Burney, Tepe Yahya: its Implications for Near Eastern Archaeology, Antiquity 49 (1975), 192—193; some further 150 steatite stamp seals were found in 1960, see P. V. Glob, Danske Arkæologer i den Persiske Golf, KUML (1960), 212. For theories identifying Dilmun with the Indus delta see S. N. Kramer, Dilmun: Quest for Paradise, Antiquity 37 (1963), 111—113 and F. R. Allchin, Dilmun and the Gulf of Cambay, Antiquity 43 (1969), 315—317.

[1170] See W. F. Leemans, The Trade Relations of Babylonia and the Question of Relations with Egypt in the Old Babylonian Period, JESHO 3 (1960), 27—30. A large trapezoidal dockyard (216 × 36 meters) has been found at Lothal at the head of the Gulf of Cambay. Six Carbon-14 readings have been taken from the site, yielding dates from 1895 B.C. ± 110 to 1700 B.C. ± 135, S. Kusumgar, D. Lal and R. P. Sarna, Tatu Institute Radiocarbon Date List I, Radiocarbon 5 (1963), 277. This early trade appears to have been directly along the coast or through entrepôts in southern Baluchistan. Either hypothesis would explain the presence of Harappan pottery in sites on or near the coast. For suggestion that these ports were entrepôts for Indian goods being shipped to Mesopotamia see J. Hansman, BASOR 36.3 (1973), 264. Two sites of the Indus valley Harappan Culture have been discovered at Sutkagen-Dor and Sotka-Koh on the coast at the mouths of the Dasht and Shadi Rivers in Baluchistan, see G. F. Dales, Harappan Outposts on the Makran Coast, Antiquity 36 (1962), 86—92; a further Harappan coastal site has been found at Bala Kot, see R. L. Raikes, The End of the Ancient Cities of the Indus, AmerAnthro 66.2 (1964), 290—291. For the overseas trade of the Harappans see S. R. Rao, Shipping and Maritime Trade of the Indus People, Expedition 7.3 (1965), 30—37, who suggests on the basis of the copper ingots found at Ras el-Qala that copper was a major import into Lothal; cf. M. Mallowan, An Early Mesopotamian Link with India, JRAS (1970), 192 suggesting that the trade link may go back to the third millennium B.C.; for use of overland routes see C. C. Lamberg-Karlovsky, Trade Mechanisms in Indus-Mesopotamian Relations, JAOS 92 (1972), 222—229. For a general survey of the geographical spread of Harappan Culture and its outside contacts see W. Kirk, The Role of India in the Diffusion of Early Cultures, GJ 141.1 (1975), 20—25.

[1171] The site of the city has been variously identified; see H. v. Wissmann, Zur Kenntnis von Ostarabien, besonders Al-Qatif, im Altertum, Le Muséon 80 (1967), 496—497 suggests the oases of Al-Qatif; cf. W. E. James, in: F. Altheim and R. Stiehl, Die Araber in der Alten Welt, 5.2.42—53, who discusses various sites and concludes that the ruins visible on aerial photographs by Doha Dhalum ($16^{1}/_{2}$ miles north-northwest of Uqair) are a likely location for Gerrha. For a brief description of this site see P. B. Cornwall, Ancient Arabia: Explorations in Hasa 1940—41, GJ 107.1/2 (1946), 33—34. A case has also been made for the Thaj oasis where extensive remains of a Hellenistic city have been noted; see P. V. Glob, Al-Bahrain (1968), 142; O. Mørkholm, A Hellenistic Coin Hoard from Bahrain, KUML (1972), 200—201.

[1172] H. v. Wissmann, Le Muséon 80 (1967), 502.

[1173] Agatharchides frag. 102 (= GGM I. pp. 189—190) cited above. P. Cair. Zen. IV. 59536: λίβανος Γερραῖος (261 B. C.); Androsthenes, FGrHist. no. 711. F 2: πεζέμποροι δ' εἰσὶν οἱ Γερραῖοι τὸ πλέον τῶν 'Αραβίων φορτίων [καὶ ἀρωματικῶν]; Aristobulus FGrHist. no. 139. F 57: 'Αριστόβουλος δὲ τοὐναντίον φησὶ τοὺς Γερραίους τὰ πολλὰ σχεδίαις εἰς τὴν Βαβυλωνίαν ἐμπορεύεσθαι, ἐκεῖθεν δὲ τῶι Εὐφράτηι τὰ φορτία ἀναπλεῖν εἰς Θάψακον, εἶτα πεζῆι κομίζεσθαι πάντηι; Polybius XIII. 9. 5 cited above n. 1050.

[1174] The past two decades have brought to light an increasing number of barbarized imitation Alexander tetradrachms with Arabic inscriptions on the reverse. These have been attributed by Mørkholm to the city of Gerrha in the third century B.C. Such coins were found at a number of sites: Failaka: O. Mørkholm, Greek Coins from Failaka, KUML (1960), 205—207, 12 tdrs. and attribution; Susa: G. Le Rider, Suse, p. 201, nos. 495—496; Gordium: D. H. Cox, A Third Century Hoard of Tetradrachms from Gordion (New York 1953), p. 7, nos. 49—50; cf. D. H. Cox, Gordion Hoards III, IV, V and VII, ANSMN 12 (1966), p. 38 no. 35 where Cox suggests that such coins were struck by the Galatians; Bahrein: D. Mørkholm, A Hellenistic Coin Hoard from Bahrain, KUML (1972), 195—197, hoard containing 215 tdrs. of this type. As yet unpublished finds containing such coins are also known from northern Syria (buried c. 190 B.C.) and a further small hoard from Failaka: O. Mørkholm, KUML (1972), 201—202 n. 5. A silver coinage has also been attributed to Hagar, Pliny's *gentes Agraei* (NH VI. 159). The coins are barbarized Alexander tetradrachms with the addition of a palm tree and Aramaic inscription on the reverse. Dussaud argued on the basis of these coins that Hagar must lie somewhere in Northern Arabia, see R. Dussaud, Sur le chemin de Suse et de Babylone, in: Mélanges F. Cumont (Bruxelles 1936), 143—150. More recently Hufhuf has been suggested as the site of ancient Hagar, see H. v. Wissmann, Le Muséon 80 (1967), 496, 502. Two such coins have been found at Susa, G. Le Rider, Suse, pp. 201—202 nos. 497—498. The largest group of 77 coins comes from the Bahrein hoard of the late third century B.C., see O. Mørkholm, KUML (1972), 197—199. A single stray find has also been made at the Thaj oasis, see F. Altheim and R. Stiehl, Die Araber in der Alten Welt 5.1.95, pl. 38. See now the study of C. Robin, Monnaies provenant de l'Arabie du Nord-Est, Semitica 24 (1974), 83—125 who distinguishes 5 types of coins.

[1175] See below n. 1362.

[1176] One such colony on the island of Failaka has been excavated by Danish archaeologists. For the temple found on the island see K. Jeppesen, A Royal Message to Ikaros. The Hellenistic Temples of Failaka, KUML (1960), 187—194. An important epigraphic text found near the temple mentions a letter from Icadion to Anaxarchus. For the editio princeps see: KUML (1960), 194—198, figs. 22—24; cf. F. Altheim and R. Stiehl, Die Seleukideninschrift aus Failakā, Klio N.F. 46 (1965), 273—281. For the temple on Icarus cf. Androsthenes, FGrHist. no. 711.F2. For the possible economic motivation behind some Seleucid foundations see H. Seyrig, Antiquités syriennes: 92. Seleucus I et la fondation de la monarchie syrienne, Syria 47 (1970), 310—311.

[1177] For this expedition see above n. 1050. Cf. also the large number of bronzes issued at Seleucia on the Tigris under Antiochus which have been found at Susa; see G. Le Rider, Suse, 302—308; Idem, in: M. Mollat (ed.), Sociétés, 123—124.

[1178] There were gold mines at Wadi Semna, Gazzã, Abu Zawal, Garadīsh, Wādi Merkh, Abu Mreiwat, Barramīyah. The pottery and structures at all these sites are dated to the Ptolemaic period, see D. Meredith, Roman Remains in the Eastern Desert of Egypt, JEA 38 (1952), 106—107, 109—111; Idem, JEA 39 (1953), 97; D. Newbold, Deraheib Gold Mines, Antiquity 23 (1948), 33—34; cf. M. Rostovtzeff, JEBH 4 (1931/32), 732—733; Idem, SEHHW 1. 382, who minimizes the yield of these mines. For evidence of Ptolemaic activity at the amethyst mines at Aenum see D. Meredith, JEA 39 (1953), 102. Cf. also Strabo XVII.1.45 (beryl mines) and Agatharchides frag. 82 (= GGM I. pp. 169—171). The phrase τῆς πολυτ[ε]λοῦς λιθείας in OGIS I.132 (130 B.C.; see text cited n. 1292) has been used to show that the Ptolemies exploited the beryl mines of Jebel Zebara (Mons Smaragdus), so K. Fitzler, Steinbrüche und Bergwerke, 48—49; V. Martin, Les épistratèges (Geneva 1911), 62; differently interpreted by D. Meredith, JEA 39 (1953), 104.

The most famous of the gold mines in the Eastern Desert are those at Wadi Allaki. Agatharchides of Knidos presents a dramatic and exaggerated picture of the condemned wretches, men, women, and children, who worked until they died in the extensive galleries of these mines. Agatharchides frs. 23—29 (= GGM I. pp. 123—129); see commentary in D. Woelk, Agatharchides von Knidos, 110—125, who is certainly correct in arguing that our author did not visit the gold mines personally.

The Ptolemies are the first to establish permanent mining concerns and bases in the Eastern Desert. In the Dynastic period Egyptian activity here consisted of military-like expeditions temporarily exploiting various mines or quarries or other expeditions passing through the area on their way to Punt; in general on these expeditions see R. Gundlach, Bemerkungen zum ägyptischen Expeditionswesen, ZDMG 111.2 (1961), 385—386.

[1179] For Philadelphus' construction of the canal see line 16 of the Pithom stele; cf. E. Naville, La stèle de Pithom, ZA 40 (1902/03), 72. Also W. W. Tarn, JEA 15 (1929), 9; F. Oertel, in: Festgabe Braunbach, 43—44. The construction of the canal is attributed to Philadelphus' interest in the spice trade by P. Collart and P. Jouget, in: Raccolta di scritti in onore di G. Lumbroso, 115. But this is unlikely. Possibly the canal was intended to facilitate the transport of elephants from the Red Sea to the stables at Memphis.

[1180] Strabo XVII. 1. 45: λέγεται δ' ὁ Φιλάδελφος πρῶτος στρατοπέδῳ τεμεῖν τὴν ὁδὸν ταύτην, ἄνυδρον οὖσαν, καὶ κατασκευάσαι σταθμούς, ὥσπερ τοῖς ἐμπορίοις ὁδεύμασι καὶ διὰ τῶν καμήλων, τοῦτο δὲ πρᾶξαι διὰ τὸ τὴν Ἐρυθρὰν δύσπλουν εἶναι, καὶ μάλιστα τοῖς ἐκ τοῦ μυχοῦ πλοϊζομένοις. It is uncertain how many of the roads and stations of the Eastern Desert were already in existence in the Ptolemaic period. At El-Heita on the Myos Hormos road a Ptolemaic ostracon has been found, see C. H. O. Scaife (with C. H. Roberts), Univ. of Egypt, Bull. Fac. of Arts 4.1 (1936), 62—63; cf. emendations of E. G. Turner in: D. Meredith, CE 31 (1956), 360—362. For Ptolemaic ostraca from Wadi el-Gazza just off the same road, see ibid., 362. An unpublished Demotic inscription of the time of Ptolemy Philadelphus is reported from the Nectanebo shrine in the Wadi Hammamat on the Coptos-Leucos Limen road. See D. Meredith, in: E. Littmann, BSOAS 16.2 (1954), 236 n. 2. The need for Ptolemaic troops in the Eastern Desert was in part determined by the necessity to guard the *damnati*, who worked in the gold mines of Wadi Allaki, see Agatharchides, frag. 24 (= GGM I. pp. 124—125). Apart from the gold mines the usual form of labour appears to have been free corvée and to a lesser extent paid wage-earners. In the case of the latter the pay was usually in terms of both coin and sustenance. See K. Fitzler, Steinbrüche und Bergwerke, 19—55, 67—73, 86. For example in the alabaster quarries, liturgical labour was used, see W. PEREMANS, 'Ελληνες dans P. Paris 66 (U.P.Z. II.157), CE 11 (1936), 519.

[1181] See P. Grenf. I.9. Cf. discussion and readings in WO 1.670, n. 3; M. ROSTOVTZEFF, JEBH 4 (1930/31), 742, n. 1; U. WILCKEN, in: UPZ II. p. 2; W. OTTO and H. BENGTSON, ABAW N.F. 17 (1938), 214; cf. also the two documents published by W. KUNKEL, Verwaltungsakten aus spätptolemäischer Zeit, APF 8 (1927), 190—199, nos. 4—5; both documents refer to the supply of grain to personnel in the fleet. Also an inscription from Coptos dedicated to the great gods of Samothrace: 'Απολλώνιος Σωσιβίου θηραῖος, ἡγεμὼν τῶν ἔξω τάξεων σωθεὶς ἐκ μεγάλων κινδύνων ἐκπλεύσας ἐκ τῆς 'Ερυθρᾶς θαλάσσης, see E. MILLER, Inscriptions grecques découvertes en Égypte, RA 3 ser. 2 (1883), 178—179 = OGIS 69.
Where and how the Ptolemies built the ships they used on the Red Sea is uncertain. The need to move ships from yards on the Nile or in the Mediterranean Sea to the Red Sea may have been the major reason for the construction of the Nile-Red Sea canal. Egyptian expeditions bound for Punt in the Pharaonic period seem, to judge from the large numbers of labourers involved, to have carried shipbuilding materials with them; see the inscription of Henu, COUYAT and MONTET, Les inscriptions hiéroglyphiques du Ouadi Hammamat, no. 114; so also K. A. KITCHEN, Orientalia 40.2 (1971), 190—191. The Pepi-nakht inscription (Anc. Rec. I. § 360) which, according to some scholars places the building of ships bound for Punt in Palestine, may suggest that ships could be taken apart and carried across the Eastern Desert; see W. HELCK, Beziehungen, 21, who notes that the ship in the Cheops' pyramid at Giza could be taken apart in this way. The Egyptians, however, appear to have merely used the natural harbours on the coast to launch their expeditions and as far as we know to date, did not build any permanent establishments on the Red Sea coast. Cf. also the discovery of a shallow Egyptian port of the fifteenth century B.C. on the east coast shore of the Gulf of Suez on the Bay of El-Markhah; see B. ROTHENBERG, PEQ 102 (1970), 25, no. 346.

[1182] For the voyage of Ariston see W. W. TARN, Ptolemy II, JEA 14 (1928), 251; IDEM, JEA 15 (1929), 13—15. For the suggestion that the accounts of voyages in the Red Sea in Diodorus III.42—47 (from Agatharchides) and Strabo XVI.4.18—19 (from Artemidorus) are both variant versions of the 'Periplus' of Ariston and thus reflect a voyage made c. 290 B.C. see W. W. TARN, JEA 15 (1929), 14; E. LEIDER, Alexandreia, 51. But cf. P. M. FRASER, Ptolemaic Alexandria, 2.300, n. 349 who quite correctly points out that no 'Periplus' of Ariston is actually attested in any ancient author.

[1183] Strabo XVI.4.4; more remotely Arrian, Ind. 43.7; cf. W. W. TARN, JEA 15 (1929), 13.

[1184] Diodorus I.37.5, who notes that Philadelphus was the first to send a Greek army into Ethiopia; such fighting may be the subject of a fragmentary third century report found at Elephantine, SB I. 5111: [. .]φ . . [. .]κατέβησαν Αἰθίοπες κα[ὶ ἐ]πολιόρκ[ησαν . . . . ., cf. Pliny, NH VI.183, who notes that *Timosthenes classium Philadelphi praefectus* sailed as far as Meroe; the same passage lists a number of other early explorers: Dalion, Aristocreon, Bion, and the younger Simonides, all of whom left records of their voyages from early in the Ptolemaic period. For Dalion see FGrHist. no. 666.F1 and 3; Juba reports, from Aristocreon that the Ethiopian riverboats gathered at Elephantine, FGrHist. no. 275. F39; cf. FGrHist. no. 667.F1; cf. Juba's report of the explorations of Philo, FGrHist. no. 275. F75. Cf. on these various reports P. PEDECH, Sur un fragment du géographe Artémidore, in: Hommages à Claire Préaux, 321—322. See also Bion on the meaning of Candace: Αἰθίοπες τοὺς βασιλέων πατέρας οὐκ ἐκφαίνουσι, ἀλλ' ὡς ὄντας υἱοὺς ἡλίου παραδιδόασι· ἑκάστου δὲ τὴν μητέρα καλοῦσι Κανδάκην, FGrHist. no. 668. F 1. This fact apparently eluded most subsequent classical authors. For the Ptolemaic garrison at Syene see T. REEKMANS and E. VAN'T DACK, CE 27 (1952), 158—159. A number of documents mention the commanders of this frontier region, OGIS 111: (Herodes son of Demophon) τῶν διαδό[χω]ν καὶ ἡγεμὼν ἐ[π' ἀ]νδρῶν / καὶ φρούραρχος Συήνης [καὶ ὀρ]οφύλαξ / καὶ ἐπὶ τῶν ἄνω τόπων [ταχθεὶς] . . . cf. OGIS 130 and SB I.1918: φρούραρχος] καὶ γερροφύλαξ [καὶ ἐπὶ τῆς Δ]ωδεκασχοίνου; SB I.3448 = Inscr. Philae I.20.9: [φ]ρο[υ]ράρχου Φιλῶν (118/116 B.C.); an ostracon found in excavations at Elephantine contains the draft of a letter of complaint by a soldier stationed at Elephantine to [Σω ?]ḳράτει στρατηγῶι τῶν ἄνω τόπων (BGU VI.1470). A fragmentary dedication from Denderah seems also to include mining among the commander's list of responsibilities, SB III.6045: ἐπ[ὶ/. . .] τῶν μετάλλων [. . . But in the reign of at least one third century B.C. Meroitic king the southern kingdom exerted its authority as far north as Philae, see the discussion of the hieroglyphic texts in K. Sethe, Dodekaschoinos, 17—18.

Rostovtzeff suggested that Ptolemaic military enterprises in Meroitic territory were designed to assert Egyptian political influence in Nubia and the Sudan to assure the flow of gold from Meroe and control of the gold mines of Wadi Allaki, SEHHW, 1.381—383. For problems of early Meroitic chronology in the late fourth and early third centuries B.C. see G. A. Reisner, The Meroitic Kingdom of Ethiopia, a Chronological Outline, JEA 9 (1923), 66—67, who places the rise of Meroe c. 300 B.C.; cf. D. Dunham, Notes on the History of Kush, AJA 50 (1946), 386—387, and G. A. Wainwright, The Date of the Rise of Meroe, JEA 38 (1952), 75—77, who favour earlier dates; cf. H. F. C. Smith, Kush 3 (1955), 20—25, who notes that no date is certain and questions the reliability of the major chronological anchor, Herodotus II. 29 (who says of Meroe: λέγεται δὲ αὕτη ἡ πόλις εἶναι μητρόπολις τῶν ἄλλων Αἰθιόπων). Cf. F. Hintze, Studien zur Meroitischen Chronologie, 22—23.

To a certain extent Ptolemaic influence in the Sudan is a traditional part of Egyptian Dynastic foreign policy in Egypt, going back at least to the middle of the third millennium B.C., see M. A. Amin, Ancient Trade and Trade Routes between Egypt and the Sudan, 4000 to 700 B.C., SNR 51 (1970), 23—30. The extent of Ptolemaic influence in the Meroitic kingdom is evident in the spread of both Greek artifacts and ideas. An example of the latter is Ergamenes, a contemporary of Ptolemy Philadelphus, who, according to Diodorus, had received a Greek education and, imbued with these new ideas, overthrew the power of the priests and established a Hellenistic monarchy, Diodorus III.6.3—4. A revision of the traditional date for Ergamenes was suggested by F. Hintze, Preliminary Report on the Excavations at Musawwarat es-Sufra, 1960—1961, Kush 10 (1962), 177—178; cf. B. R. Haycock, Towards a Date for King Ergamenes, Kush 13 (1965), 264—266, who rejects Hintze's theory and points out that the Greeks may have called several Meroitic rulers with similar names — Arkakamani, Arnekhamani, and Arqamani — Ergamenes; cf. S. Wenig, MIO 13.1 (1967), 6—9; I. S. Katznelson, The Study of the History of the Napatan and Meroitic Kingdom: Present State and Tasks, Meroitica 1 (1973), 81—82 and F. Hintze, ibid., 139—140.

Objects of Greek and Hellenistic manufacture have been found in a number of excavations of Meroitic cemeteries and sites. A notable example is a rhyton of the Sotades potter from pyramid XXIV of the South Cemetery at Meroe (now in the Boston Museum of Fine Arts); see G. A. Reisner, The Pyramids of Meroe and the Candaces of Ethiopia, BMFAB 21 (1923), 25 (date of the Sotades potter is c. 475—450 B.C., so T. B. L. Webster, Potter and Patron in Classical Athens [New York 1972], 20—21, 36. See also J. D. Beazley, ARV², 772—773. It is not the only find of the Sotades potter in this part of the world; cf. Idem, Paralipomena, 416, citing fragments in the Louvre which are probably from Egypt). A Greek cameo of c. 300 B.C. was found in the Temple of Ammon at Meroe, J. Garstang, LAAA 4 (1911), 47; in the 1909/1910 excavations one of the mounds at Meroe yielded a fragment of Greek terra sigillata with the inscription BAE . . ., A. H. Sayce, LAAA 4 (1911), 63—64 (where he also mentions a Hellenistic bronze lamp from the so-called tomb of Valerius). Palace no. 924 contained fragments of plain Hellenistic pottery and a fragment of granite with part of a Greek inscription and from another spot a fragment of black Attic ware of the second-century B.C. was excavated, J. Garstang and W. S. George, LAAA 6 (1913), 3 (who also suggest that the introduction of cremation is due to Greek influence, pp. 4—5). A fragment of a red figure vase was excavated within the city, J. Garstang and W. S. George, LAAA 6 (1913), 13—14. One of the basements of the royal city yielded a number of Hellenistic lamps and other bronzes, W. S. George, LAAA 6 (1913), 10. Among the latest imports of the Ptolemaic period may be two almost identical bronze heads of Dionysus, one in the Boston Museum of Fine Arts (cf. G. A. REISNER, BMFAB 21 [1923], 25 and pl. p. 16), the other in the Khartoum Museum. They were found in the tomb of Arikan-Kharer (pyramid N.V.) in the North Cemetery (Begrawiya) of Meroe. The date assigned to the tomb by DUNHAM, c. A.D. 25—41, is purely conjectural (for doubts about the basis of this chronology see above p. 865, n. 897). The heads themselves are of a type popular from the late second century onward (cf. the Dionysus from Sakha, F. CHAMOUX, Le Dionysos de Sakha, BCH 74 [1950], 70—81, pls. 3—4). The Khartoum head is fully published in F. CHAMOUX, Une tête de Dionysos en bronze trouvée à Méroë, Kush 8 (1960), 78—86, pls. XXIII—XXVI; cf. D. DUNHAM, Royal Tombs at Meroë and Barkal (Boston 1957), 127, nos. 58—59, who suggests that two bronze pieces found in the same tomb were part of a sculpture. This is rejected by CHAMOUX, who argues that the heads decorated a piece of furniture, like a bed. Pottery *unguentaria* said to be of Ptolemaic origin have been found as far south as Abu Sofyan, on Wadi el-Milik, see D. NEWBOLD, A Desert Odyssey of a thousand miles, SNR 7 (1924), 78, pl. XII; A. J. ARKELL, History of the Sudan^2, 174—175.

Ptolemaic influence is also traceable in the architecture at Meroe. Some of the blocks used to build the Temple of Ammon bear two ligatured Greek letters HP, A. H. SAYCE, LAAA 4 (1911), 69. A temple (no. 97) and the Royal Baths both show very strong Hellenistic influence not only on architecture but also on aristocratic social institutions (e. g. Greek athletic practices appear to have been adopted) and on Meroitic art (the baths contained local imitations of a Venus type and a Silenus type), J. GARSTANG, LAAA 5 (1912), 76—81, pls. VIII—IX, Xa; W. S. GEORGE, LAAA 6 (1913), 15—21, pl. VI, dating the baths to the third and second centuries B.C. (It is interesting that the gymnasium was also the one Greek institution which gained the widest acceptance among the Egyptians in Ptolemaic times; see comments of J. G. MILNE, Egyptian Nationalism under Greek and Roman Rule, JEA 14 [1928], 227, 229.) Cf. J. GARSTANG, LAAA 7 (1914), 3 with a date in the first century of our era for the reconstruction of temple no. 97. The *auletes* figure from the baths has been published, see D. M. DIXON and K. P. WACHSMANN, A Sandstone Statue of an Auletes from Meroe, Kush 12 (1964), 119—125 pls. XXXVI—XXXVII who date the baths to the first century B.C. or the first century of our era. The dancing figures which ornamented a rectangular enclosure (nos. 200, 220) just outside Meroe also showed Hellenistic influence. So W. J. PHYTHIAN-ADAMS, LAAA 7 (1914), 13—14. Coins of Ptolemy XIII were found in the excavation of building no. 950 at Meroe, W. J. PHYTHIAN-ADAMS, LAAA 7 (1914), 13. A bronze coin of Ptolemy III was found in the Meroitic cemetery at Ballana, see J. LECLANT, Les recherches archéologiques dans le domaine méroitique, Meroitica 1 (1973), 42—43.

The Great Enclosure at Musawwarat es-Safra has yielded a Greek inscription: αλλαξανδορσι / δικης / βασιλευδημων. See F. HINTZE, Preliminary Report of the Butana Expedition, 1958, Kush 7 (1959), 181.

Some indication of the extent of southward penetration of Ptolemaic power is also found in the 1966 excavations at Mirgissa by the Second Cataract. Here two lots of coins were found: the first contained 36 bronze coins of the first two Ptolemies, 2 of Cleopatra VII and one of Augustus; the second contained 43 bronze flans and 18 imitations of Ptolemaic coins (not earlier than Ptolemy VI). See G. LE RIDER, RN 6 ser. 11 (1969), 28—35. For the earlier excavations at this site see N. F. WHEELER (ed.), Diary of the Excavation of Mirgissa Fort, Kush 9 (1961), 87—179.

[1185] On the founding of Philoteras, Arsinoe, Myos Hormos, and Berenice Epitheras see V. TSCHERIKOWER, Die hellenistischen Städtegründungen von Alexander dem Großen bis auf die Römerzeit, Philologus Suppl. 19.1 (1927), 13—15; H. KORTENBEUTEL, Süd- und Osthandel, 22—27, 41. Cf. an earlier date, M. ROSTOVTZEFF, JEBH 4 (1931—32), 741. For possible identification of Ptolemais Epitheras, the watchtowers of Demetrius, and the altars of Konon see J. W. CROWFOOT, Some Red Sea Ports in the Anglo-Egyptian Sudan, GJ 37.5 (1911), 529—540. For elephant-hunting outposts beyond Bab el-Mandeb see Strabo XVI.4.14 (from Artemidorus). Beginning just north of Bab el-Mandeb he describes the coast: ἔστι δέ τις καὶ Φιλίππου νῆσος, καθ' ἣν ὑπέρκειται τὸ Πυθαγγέλου καλούμενον τῶν ἐλεφάντων κυνήγιον· εἶτ' Ἀρσινόη πόλις καὶ λιμὴν καὶ μετὰ ταῦτα ἡ Δειρή· καὶ τούτων ὑπέρκειται θήρα τῶν ἐλεφάντων. ἀπὸ δὲ τῆς Δειρῆς ἡ ἐφεξῆς ἐστιν ἀρωματοφόρος. . . . ὑπέρκειται δὲ ἡ Λίχα θήρα τῶν ἐλεφάντων· . . . . καὶ μετὰ ταῦτα Λέοντος σκοπὴ καὶ Πυθαγγέλου λιμήν· ἡ δ' ἑξῆς ἔχει καὶ ψευδοκασσίαν. The location of all these places along the Somali coast between Bab el-Mandeb and Cape Gardafui is assured by XVI. 4. 15: Εἰσὶ δὲ καὶ στῆλαι καὶ βωμοὶ Πυθολάου καὶ Λίχα καὶ Πυθαγγέλου καὶ Λέοντες καὶ Χαριμόρτου κατὰ τὴν γνώριμον παραλίαν τὴν ἀπὸ Δείρης μέχρι Νότου κέρως, . . . The identification of some of these Ptolemaic officers furnishes a date for these outposts (see below).

On the elephant hunts of the Ptolemies see M. Rostovtzeff, APF 4 (1907/08), 301—304; Idem, JEBH 4 (1932), 740—743; C. Préaux, L'économie royale, 34—37. Cf. U. Wilcken, ZÄS 60 (1925), 87—88; H. Kortenbeutel, Süd- u. Osthandel, 27—38; M. H. Hubbell, Ptolemy's Zoo, CJ 31.2 (1935), 70—73; M. Cary and E. H. Warmington, The Ancient Explorers, 87—89; J. Desanges, Les chasseurs d'éléphants d'Abou-Simbel, Actes du 92e Congrès National des Sociétés Savantes Strasbourg et Colmar, Section d'Archéologie, 1967, 31—50; W. Krebs, Die Kriegselephanten der Ptolemäer und Äthiopier, WZRostock 17 (1968), 427—447. P. M. Fraser, Ptolemaic Alexandria (Oxford 1972), 1.175—180; 2.299—309; H. H. Scullard, The Elephant in the Greek and Roman World (Ithaca 1974), 126—133.

[1186] A number of the expedition commanders may be identified with individuals in the Petrie papyri and in inscriptions from Upper Egypt. E. g. Strabo XVI. 4. 7: ἡ Πτολεμαῒς πρὸς τῇ θήρᾳ τῶν ἐλεφάντων, κτίσμα Εὐμήδους τοῦ πεμφθέντος ἐπὶ τὴν θήραν ὑπὸ Φιλαδέλφου . . . cf. Bernand, Paneion d'El-Kanaïs, no. 9 bis: Δωρίων τέκτων, / τῶν μετ' Εὐμήδου ἀνα/ζεύξας ἐπὶ τὴν θήραν / τῶν ἐλεφάντων / καὶ ἐσώθην / εἰς Αἴγυ/πτον.; Strabo XVI. 4. 9: αἱ Δημητρίου σκοπαὶ on the Red Sea coast, cf. P. Hib. I. 110. ii. 76—80 = Chrest. Wilck. 435: παρ[ὰ] / βασιλέως Πτολε⟨μαί⟩ου Ἀντιόχωι εἰς Ἡρακλεοπολίτην κυ(λιστὸν) α, Δημητρίω[ι] / τῶι πρὸς τῆι χορηγία[ι τ]ῶν ἐλεφάντῳ[ν] / εἰς τὴν Θηβαίδα κυ(λιστὸν) α, (255 B. C.); also Chrest. Wilck. 385 = UPZ II. 157, a report to the οἰκονόμος τοῦ Περὶ Θήβας τόπου of either 242/41 or 217/16 B. C. in regard to liturgical labour on the irrigation system mentions ten men detached for duty on the elephant hunts, i. 13—16: [τῶν πρὸς τῆι λ]ειτουργίαι / [τῶν ἐν τῆι θήρ]αι τῶν ἐλεφάντων / [κυνηγῶν] / [τῶν σὺν Δημη]τρίωι.; Strabo XVI. 4. 5 on Philoteras: Σατύρου κτίσμα τοῦ πεμφθέντος ἐπὶ τὴν διερεύνησιν τῆς τῶν ἐλεφάντων θήρας καὶ τῆς Τρωγλοδυτικῆς· cf. OGIS 30 = SB. V. 8641 = Bernand, Paneion d' El-Kanaïs no. 9: Ἀρσινόηι / Θεαῖ Φιλαδέλ/φωι Σάτυρος; Strabo XVI. 4. 13 mentions a λιμήν of Eumenes, cf. P. Petr. III. 4. 18: πεντακοσιάρχης Μελέαγρος Ἰλλύριος τῶν Εὐμένους (238/37 B. C.), cf. H. Kortenbeutel, Süd- u. Osthandel, 34; Strabo XVI. 4. 14: ἡ Λίχα θήρα τῶν ἐλεφάντων, cf. a dedication from Edfu of Λίχας Πύρρου Ἀκαρνάν / στρατηγὸς ἀποσταλεὶς /ἐπὶ τὴν θήραν τῶν ἐλεφάν/των τὸ δεύτερον (OGIS 82 = SB V. 8866), and a further dedication in SB IV. 7306: Λίχας] Πύρρου Ἀκαρνὰν / [στρατηγὸς ἀ]ποσταλεὶς / [ἐπὶ τὴν θήραν] τῶν ἐλεφάν/[των τὸ δ]εύτερον.; possibly also Λίχ(ας) πεντακοσίαρχος in P. Petr. I. 18. 6 = III. 18. 6; in OGIS 86 Charimortus στρατηγὸς ἐπὶ τὴν θήραν τῶν ἐλεφάντων is mentioned, cf. possibly the same individual in O. Osl. 2 and Polybius XVIII. 55. 1—2. Among those mentioned by Strabo (XVI.4.14, 15 cited above n. 1185) as founders of outposts is Pythangelus. The same individual and his son are mentioned as commanding the elephant-hunting expedition in P. Petr. III.114; cf. the revised readings published by B. Hemmerdinger, Comptes de chasseurs d'éléphants (P. Petrie III.114), APF 20 (1970), 25—27 (223/222 B.C.): Διονυσοκλῆς Δράκοντος [τῶν Πυθαγ]γέλου καὶ Πτολεμαίου τοῦ α[ὐτοῦ ἀνασταμάτων μ(ισθός)] ἐλεφ[άντω]ν κλ(ηρουχίας) . . .

P. Petr. III.40a = Chrest.Wilck. 452 (224 B.C.) brings valuable additional information. The text is a letter sent to a Red Sea outpost reassuring the occupants after the sinking of an elephant-transport. The text is republished in S. Witkowski, Epistulae privatae Graecae, quae in papyris aetatis Lagidarum servantur (Leipzig 1911), no. 24 and new readings for lines 19—21 are suggested by idem, Eos 19 (1913), 23; see discussion in

Wilcken, ad. loc., M. Rostovtzeff, APF 4 (1907—08), 303 and H. Kortenbeutel, Süd-u. Osthandel, 34—35. The text as restored by Wilcken indicates that the grain ships to supply the Red Sea outpost sailed from Heroonpolis and that the elephant-transports were built in a Berenice (probably Trogodutica). For ἐλεφαντηγός in this document see M. Merzagora, La navigazione in Egitto nell'età Greco-Romano, Aegyptus 10 (1929), 119—129; also Agatharchides frag. 83 (= GGM I. p. 197, from Photius). For the transportation of elephants on ships see the mosaics of Veii and Piazza Armerina, all from the Roman Imperial period: F. Baratte, Une mosaïque retrouvée, l'embarquement de l'éléphant de Veii, MEFR 83 (1970), 787—806; G. V. Gentili, I mosaici della villa romana del casale di Piazza Armerina, Boll. d'Arte 37 (1952), 40, pl. 16.

[1187] Pliny NH VI. 58; Solinus Coll. 52.3; cf. W. W. Tarn, JEA 14 (1928), 251 suggests that Dionysius was sent to obtain elephant trainers; see also W. Otto and H. Bengtson, ABAW N. F. 17 (1938), 194. Jacoby, FGrHist no. 717.F1 has a single dubious fragment of an 'Indica' by Dionysius. For doubt about the identity see P. M. Fraser, Ptolemaic Alexandria, 2.311 n. 387. For Seleucid-Mauryan relations see P. H. L. Eggermont, Persica 2 (1965—66), 56—66.

[1188] See in general R. Thapar, Aśoka and the Decline of the Mauryas (Oxford 1961), 137—181.

[1189] For the bilingual Greek and Aramaic text of one of Aśoka's Rock Edicts found in 1958 at Kandahar see D. Schlumberger, L. Robert and A. Dupont-Sommer, Une bilingue gréco-araméene d'Asoka, JA 246 (1958), 1—48 (Greek text: 2—3; Aramaic 20); G. Tucci, U. Scerrato, G. P. Carratelli and G. Levi della Vida, Un editto bilingue grecoaramaico di Aśoka, Serie Orientale Roma 21 (Rome 1958); J. Filliozat, Graeco-Aramaic Inscription of Aśoka near Kandahar, EpInd 34 (1961/62), 1—8; F. Zucker, AAntHung 7 (1959), 103—106; on the Aramaic version see F. Altheim and R. Stiehl, Zwei Neue Inschriften, AAntHung 7 (1959), 107—116; Idem, The Greek-Aramaic Bilingual Inscription of Kandahar and its Philological Importance, E&W n. s. 10.4 (1959), 243—260; D. D. Kosambi, Notes on the Kandahar Edict of Aśoka, JESHO 2 (1959), 204—206; R. Lingat, Encore AYĀYA SAṂBODHIM à propos de l'inscription gréco-araméenne d'Aśoka, JA 255 (1967), 197—198; for the Greek text see C. Gallavotti, The Greek Version of the Kandahar Bilingual Inscription of Aśoka, E&W n. s. 10.3 (1959), 185—191; K. R. Norman, Notes on the Greek Version of Aśoka's Twelfth and Thirteenth Rock Edicts, JRAS (1972), 2.111—118 and above n. 764. A Greek text of a similar edict was found at Kandahar in 1963: D. Schlumberger, Une seconde inscription grecque d'Asoka, CRAI (1964), 126—140; E. Benveniste, Édits d'Asoka en traduction grecque, JA 252 (1964), 137—157. Cf. also the brief Aramaic texts from the site: A. Dupont Sommer, Une nouvelle inscription araméene d'Asoka découverte a Kandahar (Afghanistan), CRAI (1966), 440—451; E. Benveniste and A. Dupont-Sommer, Une inscription indo-araméenne d'Asoka provenant de Kandahar (Afghanistan), JA 254 (1966), 437—465. In general on the strategic location of Kandahar see K. Fischer, BJ 167 (1967), 144—168. Also an Aramaic translation of the fourth rock-edict found at Taxila. See text published by F. C. Andreas, Erklärung der aramaischen Inschrift von Taxila. Aus dem Nachlaß herausgeben von H. A. Winkler, GöttNachr (1932), 6—17, interpreted the text as a commemorative inscription; cf. F. Altheim, Awestische Textgeschichte (Halle 1949), 5—9, who argued for a building inscription. More recently Humbach has argued in favour of considering the inscription as an Aramaic translation of Aśoka's fourth rock edict similar to the Kandahar text; see H. Humbach, Die aramäische Inschrift von Taxila, AAWM (1969), no.1.; and Idem, Additional Notes on the Aramaic Inscription of Taxila, MSS 26 (1969), 39—42. Also a bilingual Aramaic and Gandhari edict of Aśoka from Lampaka (Pal-i Daruntah): W. B. Henning, The Aramaic Inscription of Aśoka found at Lampaka, BSOAS 13 (1949), 80—88, contra F. Altheim, Weltgeschichte Asiens im griechischen Zeitalter (Halle 1947), 1.25—43. In 1969 an Aramaic inscription of Aśoka was found in the Laghman Valley: see A. Dupont-Sommer, Une nouvelle inscription araméenne d'Aśoka trouvée dans la Vallée du Laghman (Afghanistan), CRAI (1970), 161—173; cf. H. Humbach, Die aramäische Aśoka-Inschrift vom Laghman-Fluß, IndTag (1971), 161—169 (identifying the site as Sultan Baba Ghar). In 1971 a second Aramaic inscription was found in the Lagham Valley on Sam Baba Ghar, G. D. Davary and H. Humbach, Eine weitere aramäoiranische Inschrift der Periode des Aśoka aus Afghanistan, AAWM (1974), 1.9—16; H. Humbach, AcIr 1 ser. 2 (1974), 240—242.

1190 The standard edition of the text is J. Bloch, Les inscriptions d'Asoka (Paris 1950), 130—131. The most recent translation is R. Thapar, Aśoka and the Decline of the Mauryas, 256: "The Beloved of the Gods considers victory by *Dhamma* to be the foremost victory. And moreover the Beloved of the Gods has gained this victory on all his frontiers to a distance of six hundred *yojanas* (i. e. 1500 miles), where reigns the Greek king named Antiochus, and beyond the realm of that Antiochus in the lands of the four kings named Ptolemy, Antigonus, Magas and Alexander and in the south over the Colas and Pāṇḍyas as far as Ceylon . . . Even where the envoys of the Beloved of the Gods have not gone, people hear of his conduct according to *Dhamma*, his precepts and his instructions in *Dhamma* and they follow *Dhamma* and will continue to follow it." On the religious and social meaning of *Dhamma* see ibid., 181.

Interpretations of the text vary. V. R. R. Dikshitar, The Thirteenth Rock Edict of Asoka, in: M. Shafi (ed.), Woolner Comm. Vol. (1940), 73—74 argued that the reference to the neighbouring states in the edict may be an allusion back to the time of Chandragupta. Cf. also S. Levi, Alexander and Alexandria in Indian Literature, IHQ 12 (1936), 121. On the basis of the Indian evidence R. Thapar, Aśoka, 35—36 suggests a date of 260 B.C.; F. Chamoux, Le roi Magas, RH 216 (1956), 30—31 suggests 251—248 B.C. as a result of his chronology for Magas of Cyrene; cf. the criticism of P. M. Fraser, Greek Inscriptions, JEA 43 (1957), 108; also for c. 250 B.C. see E. C. Will, Histoire politique du monde hellénistique (323—30 av. J.C.) (Nancy 1966), 1.126,216; P. M. Fraser, Ptolemaic Alexandria, 2.311 proposes a date of c. 260 B.C. from a synchronism of the Hellenistic rulers mentioned in the inscription.

1191 What the text in fact means in unclear. Aśoka does not directly mention embassies to the Hellenistic Kings, but this is implied. The fact that embassies were sent out does not mean that they reached their destination. Cf. the experience of the Han Emperor Wu-ti, some of whose ambassadors sold the gifts they were to bestow on foreign rulers, fabricated wild stories about countries which they had not seen and returned home to claim their rewards, see SC 123 in B. Watson, Records, 2.276—277. For the religious motivation of these embassies see A. Waley, History Today 5.6 (1955), 95—103.

1192 Such motivation is suggested by H. Kortenbeutel, Süd- u. Osthandel, 29—30; E. Leider, Alexandreia, 57—58; P. M. Fraser, Ptolemaic Alexandria, 1.180—181. Cf. H. Braunert, Auswärtige Gäste am Ptolemäerhofe, JDAI 65/66 (1950/51), 262.

1193 See dedications from the Eastern Desert, E. Bernand, Inscr. Métriques, no. 159 = A. Bernand, Paneion d'El Kanaïs, no. 3: σω/θεὶς Εὐτιχίδης / ἔθετο / ἐκ Τρογοδυτῶν; also Paneion d'El-Kanaïs, nos. 3, 18, 43, 44, 47, 60, 61 (?), 62, 82, 90; cf. no. 44: [στρατιῶτ]/αι τῶν 'Αρτεμιδώρου σωθέν/τες ἐκ τῶν Τρογ[ο]δύτων; see also Inscr. Métriques, no. 158 = Paneion d'El Kanaïs, no. 2: σ[ω]θεὶς / γῆς ἀπὸ τῆς (Σ)αβαίων; or no. 42: σωθεὶς ἐκ πε/λ(άγ)ους. For the chronology of the El-Kanaïs texts see W. Schwarz, Die Inschriften des Wüstentempels von Redesiye, Jahrb. f. klass. Philol. 153 (1896), 146—148. The usually accepted date is the third century B. C., so M. Rostovtzeff, JEBH 4 (1931/32), 743 n. 3; M. Launey, Recherches sur les armées hellénistiques (Paris 1949/50), 1. 265—266, 2. 984. A. Bernand, Paneion d'El Kanaïs, p. 31 dates most of these inscriptions to the late second and first centuries B. C.

An inscription, most probably from the Paneion at El-Kanaïs (now in a private collection in New York), is our earliest documentary evidence for voyages to the vicinity of Bab el-Mandeb and beyond. Inscr. Métriques no. 164: Πανὶ τόδε εὐάγρῳ καὶ ἐπ[ηκό]/ῳ̣ι̣ ὃ̣ς δ̣ι̣έσωισεν Τρωγο̣δ̣υτῶν με [ἐκ] / γῆς, πολλὰ παθόντα πόνοις δισσοῖς, Σ̣[μυρνο]/φόρου θ' ἱερᾶς. Κ̣ο̣λοβῶν τ̣ε̣ ἀπὸ . . . . σώισα̣ς̣ [δὲ(?) ἐν πε]/λάγει πλαζο̣μ̣ένους 'Ε̣ρ̣υ̣θ̣ρ̣[ῶ̣], οὖρον νευσὶ με/θῆκας ἑλισσ[ομ]ένοις ἐνὶ πόντωι, συρίζων /

λ̣ιγυροῖς πνεύ̣μασιν ἐγ δονάκ[ων] μ̣έχ̣ρ̣ι κ̣α̣ὶ̣ εἰ[ς / λιμ]ένα Πτολ̣ε̣μ̣α̣ΐ̣δος ἤγαγες αὐτὸς σ̣αῖσι κ̣[υ/βε]ρ̣νήσας χ̣ε̣[ρ]σ̣ὶ̣[ν ἐ]π̣αγροτ[ά]⟨τα⟩τ̣α̣ι̣ς. Ν[ῦν, / φί]λε, Ἀλεξάνδ̣ρ̣ο̣υ̣ [σ]ῷισον πόλ̣ιν ἥν πο̣[τε] / π̣ρῶτο̣ς̣ τε[ῦ]ξ[ε]ν̣ [ἐ]π' Αἰγύπ̣τ̣ου, κ̣λ̣ε̣ι̣νο[τάτην / π]ο̣λ̣ί̣ων / [α]ὐ̣δή[σω]δ̣[ὲ] τ̣ὸ σὸν κράτος, ᾧ̣ [φ]ίλε [Πάν, / δ]ι̣α̣σ̣ω̣[θ]εὶς πρ̣ὸς Πτολεμαῖ[ον? ... / τ]ε Αρσινοίην̣ Ε̣ὐάγρους̣ [----- βα]σιλείας. The dedication to Pan Εὔαγρος (cf. below) and the similarity of the geography to that in Strabo XVI. 4. 14 suggest that the reference is to an elephant-hunting expedition rather than a commercial venture, see F. W. HOUSEHOLDER and D. W. PRAKKEN, A Ptolemaic Graffito in New York, TAPhA 76 (1945), 115—116, who note that v. 9 suggests a date of 220—203 B. C. when Alexandria was in danger.

For the dangers of navigation in the lower reaches of the Red Sea see the vivid account in Agatharchides frag. 83 (= GGM I. pp. 171—173); cf. P. Petr. III.40a = Chrest. Wilck. 452 for the sinking of an elephant transport (cf. above n. 1186). Note, however, that Agatharchides belongs to the tragic school of history with its taste for sensationalism and the use of exaggeration to elicit an emotional thrill from the reader (cf. Polybius' criticisms of this type of writing in XV.34.1—2; XVI.14.1; XXIX.12.1—2); see B. ULLMANN, History and Tragedy, TAPhA 73 (1942), 25—53. See also A. VILLIERS, MM 47 (1961), 251—252, who notes that in the Red Sea shoals are more difficult to see than in other bodies of water; see also the fifteenth century Arabic work of Ahmad ibn Majid, who deals at length with the dangers of shoals in the Red Sea, in: G. R. TIBBETTS, Arab Navigation, 243—267.

1194 The writers of many of the graffiti do not identify themselves beyond their names and it is virtually impossible to determine whether they are members of military units returned from elephant hunts or private merchants. For the view that the writers of these graffiti are merchants see W. SCHWARZ, Jahrb. f. Klass. Philol. 153 (1896), 146; M. ROSTOVTZEFF, JEBH 4 (1931/32), 743; C. PRÉAUX, CE 27 (1953), 273—274. There are some exceptions, see SEG XVI. 864. 20 = SB I. 4140 (from Abu Simbel): Ἰάσων Ζηνοβίου Κίλιξ / ὀρνυθοθήρας; also dedications to Pan Εὔαγρος, see A. BERNAND, Paneion d'El-Kanaïs nos. 26, 29, 66; and no. 44: Πανὶ Εὐόδωι [στρατιῶτ]/α̣ι τῶν 'Αρτεμιδώρου σωθέν/τες ἐκ τῶν Τρογ[ο]δυτῶν / .... For the view that all the men mentioned in the El-Kanaïs texts belong to various national contingents in the Ptolemaic army see M. LAUNEY, Recherches sur les armées hellénistiques, 1.265—266; 2. 984. In general on national contingents in the Ptolemaic army units stationed in the Thebaid see W. PEREMANS, Sur l'identification des Égyptiens et des étrangers dans l'Égypte des Lagides, AncSoc 1 (1970), 32—33.

Only one of the graffiti can be definitely linked to the spice trade, BERNAND, Paneion d'El-Kanaïs no. 72: [σ]ωθε̣ὶ̣[ς] πάλιν ὑ[πὲρ] / πατρὸς ἔθυσα Ἰν[δικὴν?] / [σμύ]ρναν ----- / καὶ λιβανωτόν. The photograph of the squeeze (pl. 47 no. 20) shows the remains of a letter not inconsistent with a 'κ'. The reading in line 7 may perhaps be Ἰν[δι]κ̣[ὴν]. Such geographical confusion would not be unusual, see below. For the possibility that myrrh grew in Baluchistan, Sind and northern India see O. W. WOLTERS, The Po-ssu Pine Trees, BSOAS 23 (1960), 334.

Also the romantic tale of Iambulus may fall into this period. The story begins with Iambulus as a merchant who ἀναβαίνων δὲ τῆς 'Αραβίας ἐπὶ τὴν ἀρωματοφόρον is captured by robbers (Diodorus II.55.2). For a third century B.C. date see W. W. TARN, Alexander the Great and the Unity of Mankind, PBA (1933), 129. Cf. H. v. WISSMANN, in: Festschrift H. Kinzl, 322 with a date in the third or second centuries B.C. For the romantic tradition which considers Ethiopia as a Utopian state ruled over by Helios (from which Iambulus' southern island is derived) see T. SZEPESSY, AAntHung 7 (1957), 251.

1195 An unpublished Aramaic papyrus probably from the reign of either Artaxerxes I or Darius II contains an official letter referring to the arrest of several Ionian and Carian ships with their crews in a harbour and notes that careful watch is to be kept on them (for parallel Ptolemaic regulations see below n. 1619), J. B. SEGAL, Proceedings of the XIV International Congress of Papyrologists (London 1975), 254. For the Persian origins of some important legal and administrative features of Ptolemaic Egypt see J. Harmatta, Das Problem der Kontinuität im frühhellenistischen Ägypten, AAntHung 11 (1963), 199—213.

[1196] For the wardens of the southern barrier of Elephantine in the Ancient Kingdom see H. Kees, GöttNachr (1932), 91. For the measures taken by the XXVI Dynasty to control the arrival and departure of foreigners (primarily Greeks and Carians) and their goods in Egypt see G. Posener, Les douanes de la Méditerranée dans l'Égypte Saïte, RPh (1947), 117—131; see also Herodotus II. 113 for Thonis the φύλαξ τοῦ στόματος (τοῦ Νείλου) and Strabo XVII.1.6, 18, cf. A. Schiff, Inschriften aus Schedia (Unterägypten), in: Festschrift O. Hirschfeld 380, n. 1. For the controls on the land routes across the Sinai and from the Eastern Desert see H. Kees, Ein Handelsplatz des MR im Nordostdelta, MDAI(K) 18 (1962), 4—8.

[1197] In general see C. Préaux, L'économie royale, passim; M. Rostovtzeff, SEHHW, esp. 1.302—314. Some Ptolemaic monopolies extended to the sale of a product, not to its production. See F. Uebel, ΜΟΝΟΠΩΛΙΑ ΦΑΚΗΣ. Ein bisher unbezeugtes Handelsmonopol frühptolemäischer Zeit in einem Jenaer Papyrus (P. Ien. inv. 900), Actes du X^{e} Congrès International de Papyrologues, Warsaw 3—9 Sept. 1961 (1964), 171, 179.
Wilcken did envisage the possibility (contra Rostovtzeff) that in some enterprises such as the grain trade private merchants did exist; see U. Wilcken, Alexander der Große und die hellenistische Wirtschaft, Schmollers Jhrb. 45.1/2 (1921), 70—74. A *prostagma* of Ptolemy Auletes of 79 B.C. published by Kunkel compels all those dealing in grain (apparently private merchants) to transport their merchandise to Alexandria, W. Kunkel, APF 8 (1927), 212—215; cf. U. Wilcken, Hermes 63 (1928), 55—56.

[1198] On the Ptolemaic monopoly in aromatics and spices see M. Rostovtzeff, APF 4 (1907/08), 313—315; T. Reil, Beiträge zur Kenntnis des Gewerbes im hellenistischen Ägypten, 144—149; P. Collart and P. Jouguet, Petites recherches sur l'économie politique des Lagides, Raccolta di scritti in onore di G. Lumbroso, 110—121 (= SB III.7176); C. Préaux, L'économie royale, 362—371. For other documents relevant to this monopoly see M.-T. Lenger, Quelques papyrus inédits de la Bibliothèque Bodléenne, CE 24 (1949), 113—119; cf. T. Reekmans and E. van't Dack, A 2nd Century B.C. Petition (Bodleian Ms. Gr. Class c [87] P), RIDA 5 (1950), 418; T. C. Skeat, A Fragment of the Ptolemaic Perfume Monopoly, JEA 52 (1966), 179—180. For the control of prices in the aromatics trade see a letter of 111 B.C. fixing the price of myrrh at 40 silver drs. per mina, P. Tebt. I.35 = Chrest. Wilck 309. For comparison with prices for locally grown spices see list in L. C. West, The Cost of Living in Roman Egypt, CPh 11 (1916), 308. How such a monopoly would work may be seen in P. Cair. Zen. 59031, which deals with the iron monopoly.

[1199] P. Cair. Zen. I.59012; 59013; 59015; cf. also Hirtius, Bell. Alex. 13: *Erant omnibus ostiis Nili custodiae exigendi portorii causa dispositae.* Agatharchides frag. 22 (= GGM I.p.122) mentions a tax established at Schedia but this is an internal toll between Upper and Lower Egypt rather than an external tariff.
For discussion of the tariff at Pelusium see A. Andréadès, in: Mélanges Glotz, I.11—23; C. Préaux, L'économie royale, 372—374; E. Leider, Alexandreia, 25—26. For the tax on spices see SB VI. 9416 a letter to Hermolaos dealing with Τὴν δ[ιάθεσιν τῶν λιβανωτικῶν φορτίων τοῦ 'Αφροδιτοπολίτου καὶ τὴν τοῦ μυ̣ρ̣ο̣ῦ τ[ετά]ρ̣τη̣[ν . . . (248 B. C.). For the identification of Hermolaos with the *oeconomus* of the Memphite and Aphroditopolite nomes in the Zenon correspondence, see C. Préaux, CE 24 (1949), 110, 116—117 cf. on this individual, M. Rostovtzeff, A Large Estate, 150—151 and n. 106. See also O. Cair. 9710 (243 or 218 B. C.): πέπτωκεν / ἐπὶ τὴν ἐν Διὸς πόλει `τῆι μεγάληι' τράπεζαν / διὰ θέωνος χειριστοῦ μύρου τετάρτης / εἰς τὸ δ (ἔτος) Γ̣λ̣α̣ῦ̣κος Ψενχώνσιος. A letter from Cresilaus to Artemidorus of 269 B. C. also mentions this tax: 'Αποστειλάντων ἡμῶν / εἰς τὸν Κωίτην φορτία λιβανωτικὰ / εἰς τὴν αὐτόθι διάθεσιν, ἀπήγγελ/λεν ὁ παρακομίσας κεκωλυκέναι/σε προφερόμενόν σοι δεῖν τὴν τιμὴν / τάσσεσθαι. 'Εθαύμαζον οὖν πόθεν / ἐπῆλθέν σοι τοιοῦτόν τι συντε/λεῖσθαι· οὐ μήν γε ἀπεστάλκαμεν / 'Ασκληπιάδην καὶ Σεμθέα διαθη/σομένους καὶ συνανα̣γκάσοντας τοὺς

συντεταγμένους τὴν τετ̣ά̣ρ/την τῶν [μ]ύρων τά̣[ξ]α̣σθα[ι] τὸ ἐν α̣ὐ̣/τοῖς . . . . ; see commentary in P. Collart and P. Jouguet, Raccolta Lumbroso, 119—121. On τετάρτη μύρων or μύρου see C. Préaux, Ostraca ptolémaïques du Musée du Caire, CE 28 (1953), 109—112.

[1200] Cf. a dedication from El-Kanaïs, Bernand, Paneion d'El-Kanaïs, no. 72: [σ]ωθε̣ὶ̣[ς] πάλιν ὑ[πὲρ] / πατρὸς ἔθυσα ἰν[δικὴν ? / σμύ]ρναν ---- - / καὶ λιβανωτόν (see above n. 1194). The import of spices by sea is also suggested by a reference in OGIS 132. 10—11: κατακομίζουσι ἀπὸ τοῦ κατὰ Κόπτον ὄρου[ς] / τὰ λιβανωτικὰ φορτία καὶ τἆλλα ξένια . . . . ; cf. Strabo XVII. 1. 45. For φορτία λιβανωτικά see P. Collart and P. Jouguet, in: Raccolta Lumbroso, 120.

[1201] For the economic significance of the Ptolemaic control of Syria see G. M. Harper, A Study in the Commercial Relations between Egypt and Syria in the Third Century before Christ, AJPh 49 (1928), 1—35. Palestine and Phoenicia were certainly conquered by the Ptolemies for political rather than commercial reasons, so M. Rostovtzeff, JEBH 4 (1931/32), 736; cf. P. Collart and P. Jouguet, in: Raccolta Lumbroso, who suggest that the Ptolemaic occupation of Palestine was in large part based on a desire to control the spice trade; so also A. Andréadès, in: Mélanges Glotz, I.9, so also A. Jähne, Die 'Syrische Frage', Seleukeia in Pierien und die Ptolemäer, Klio N.F. 56 (1974), 501—506 who explains the wars for Syria in purely economic terms. More farfetched still is W. W. Tarn, JEA 14 (1928), 250—251 who attributes Philadelphus' expansion into Ionia to a desire to control the land routes from India!

An Egyptian presence in Syria and still further East is not a novelty of the Ptolemaic period; see the evidence assembled by D. J. Wiseman, Some Egyptians in Babylonia, Iraq 28 (1966), 154—158; L. Oppenheim, JCS 21 (1967), 250, n. 77. The reverse phenomenon, i.e. the movement of Phoenicians into Egypt before the Hellenistic period has also been argued, see B. Segall, The Problem of Phoenician Artisans in Egypt, JWAG 9 (1946), 101.

[1202] Agatharchides, frag. 1 (= GGM I. p. 111); Diodorus III.36.3. Cf. H. Kortenbeutel, Süd- und Osthandel, 23—25 for the close chronological relationship between the First Syrian War and Philadelphus' interest in elephant-hunting.

[1203] The last attested use of elephants by the Ptolemies occurs in the reign of Ptolemy VIII Euergetes II to whom Josephus attributes a Jewish persecution (contra Apion II.54—55), in which elephants were used to trample prisoners to death. But the historicity of a Jewish persecution under Ptolemy VIII is almost unanimously rejected; U. Wilcken, Zum Alexandrinischen Antisemitismus, ASAW (1909), 786 n. 4 on Ptolemy VIII's pro-Jewish tendencies; H. Willrich, Der historische Kern des III. Makkabäerbuches, Hermes 39 (1904), 246—258; W. Kolbe, Beiträge zur syrischen und jüdischen Geschichte (Berlin 1926), 111—113; H. Bengtson, Historia 4 (1955), 153—154.

[1204] Agatharchides frag. 56 (= GGM I. p. 147) on the difficulties of preventing the natives from slaughtering elephants. Also of relevance here are a number of Demotic ostraca which are receipts for the payment of the ivory tax: *ḥt ⟨n⟩ nḥt. t.* All of the documents are from Elephantine and the reign of Ptolemy Philadelphus: Mattha, Demotic Ostraka, nos. 220—222, and S. V. Wangstedt, Demotische Steuerquittungen aus ptolemäischer Zeit, OrSuec. 17 (1968), 29—34, nos. I,VI (270/96—267/66 B.C.). On this tax see G. Mattha, Notes and Remarks on Mattha's 'Demotic Ostraka', Univ. of Egypt, Bull. Fac. of Arts 18.2 (1956), 32.

[1205] The rock-paintings in the vicinity of Wadi Hammamat suggest that elephants were still known in the Eastern Desert of Egypt in the predynastic and early Dynastic periods. See F. Dobono, ASAE 51 (1951), 85, pl. XVIII.6. On the ancient distribution of elephants in East Africa, see F. Vahala, Der Elefant in Ägypten und Nubien, ZÄS 98 (1970), 81—83. For depictions of elephants in Pharaonic Egypt see E. Schott, Ein Stempelsiegel in Form eines Elefanten, MDAI(K) 27 (1971), 99—110.

[1206] See comments of Pliny VIII.7 on the scarcity of ivory in his own day. A parallel is perhaps to be found in the disappearance of the elephant from North Africa. Graffiti from this region indicate that elephants were once common here but the hunting of them for ivory in the Roman period, when the ivory trade was centred at Leptis Magna and Sabota, may have driven the herds further south; see evidence assembled by S. AURIGEMMA, L'elefante di Leptis Magna e il commercio dell'avorio e delle *Ferae Libycae* negli *Emporia* Tripolitani, Africa Italiana 7 (1940), 67—86. Juvenal, Sat. XI.123—126 cites the places from which ivory is brought to Rome: *grande ebur et magno sublimis pardus hiatu / dentibus ex illis quos mittit porta Syenes / et Mauri celeres et Mauro obscurior Indus / et quos deposuit Nabataeo belua saltu.* On which see J. Y. NADEAU, Ethiopians, CQ n. s. 20.2 (1970), 348.

[1207] Cf. J. W. CROWFOOT, GJ 37.5 (1911), 528—529, who notes that it is difficult to find ancient or medieval sites along this coast, since there has been a tendency for settlements to shift their position every few centuries. Even in the early years of the present century most towns had a maximum of only a few hundred houses and ports and anchorages are few and far between. There thus appears to be little chance of ever tracing archaeologically such a hunting station. Strabo XVI.4.7 notes that Ptolemais Epitheras was enclosed by a fortification and ditch. The only indication of the size of these expeditions is found in Chrest. Wilck. 451 (223 B.C.) which mentions the payment of 231 men in an elephant hunting expedition.

[1208] R. PARIBENI, Ricerche nel Luogo dell'Antica Adulis, Monumenti Antichi 18 (1908), 437—572. No stratigraphic information is provided and the potential value of this important site was almost totally wasted by the excavators. Much of the material recovered came from levels yielding Axumite coins (451, 457, 482, 495, 520, 526, 537) and is therefore late. A similar date is suggested by a number of Christian artifacts (499—500, 528). Only a few objects even hint at an earlier date, e. g. sherds of Arretine ware (498, not illustrated). The finds do confirm the import of wines and glass from the Roman Empire (550—552, 558—560) mentioned in the 'Periplus'. Recently KIRWAN paid a visit to the site and reported that many sherds of late Roman amphorae were visible on the surface of the site; see L. P. KIRWAN, The Christian Topography and the Kingdom of Axum, GJ 138.2 (1972), 168—169. See also W. KREBS, Adulis — ein antiker Hafen am Roten Meer, Das Altertum 15.3 (1969), 162—169, who knows of no archaeological evidence apart from the French expedition of 1845; K. suggests that Adulis was originally Berenice Panchrysos; so already A. DILLMANN, Die Anfänge des Axumitischen Reiches, APAW (1878), 189—190. Also on Adulis see F. ANFRAY, Le musée archéologique d'Asmara, RSE 21 (1965), 11—13 (Adulis material in the Asmara museum).

CROWFOOT, after a search along much of the coast, suggested that Ptolemais Epitheras should be located in the area of Akik and at nearby Isa Derheib he found part of the stone cornice of what may be a Hellenistic building. See J. W. CROWFOOT, GJ 37.5 (1911), 527—535.

[1209] A fourth-century B.C. bronze Carthaginian coin from a Sicilian mint came to light in Halai (Acchele Guzai, Eretrea). A. ANZANI, RIN 4 ser. 43 (1941), 87 n. 52, pl. KK. Cf. also the discovery of what BECK identified as early Malayan and Romano-Egyptian type beads in a large number of ruined sites in Central Somalia. Investigation has revealed that these sites belong to the fifteenth and sixteenth centuries; A. T. CURLE, The Ruined Towns of Samaliland, Antiquity 11 (1937), 321. The lack of Ptolemaic materials is in sharp contrast with the excavation of considerable quantities of Mediterranean imports at many Axumite sites, see below n. 1536.

[1210] Periplus c. 30 (= FRISK, p. 10. 9—10) describes the inhabitants of Socotra: εἰσὶν δὲ ἐπίξενοι καὶ ἐπίμικτοι Ἀράβων τε καὶ Ἰνδῶν καί τινα μὲν Ἑλλήνων τῶν πρὸς ἐργασίαν ἐκπλεόντων. Cosmas Indicopleustes reports that this settlement goes back to Ptolemaic times on the basis of a local tradition he has heard from some inhabitants of the island, who visited Ethiopia: Ὁμοίως καὶ ἐν τῇ νήσῳ τῇ καλουμένῃ Διοσκορίδους κατὰ τὸ αὐτὸ Ἰνδικὸν πέλαγος, ἔνθα καὶ οἱ παροικοῦντες ἑλληνιστὶ λαλοῦσι, πάροικοι τῶν Πτολεμαίων τῶν μετὰ ᾿Αλέξανδρον τὸν Μακεδόνα ὑπάρχοντες (III. 65 [W. C.]). On Cosmas' interest in Ptolemaic history see H. BENGTSON, Kosmas Indikopleustes und die Ptolemäer, Historia 4 (1955), 155—156; see also G. A. WAINWRIGHT, Cosmas and the Gold Trade at Fazogli, Man (May—June 1942), art. no. 30, 52—53, 56—57. An archaeological survey of Socotra which investigated all of the probable sites for early settlement, found nothing earlier than remains of the late Middle Ages, see P. L. SHINNIE, Socotra, Antiquity 34 (1960), 100—110.

[1211] For the archers carried by merchant ships see above n. 962.

[1212] Periplus c. 4 (= FRISK, p. 2.1—4) describes the precautions against a night attack taken while anchoring off Adulis; c. 20 (= FRISK, p. 7.6—9, 11—14) describing the Red Sea coast of Arabia: Τούτων ⟨τὰ⟩ παρὰ θάλασσαν ὁμοίως ᾿Ιχθυοφάγων μάνδραις διείληπται, τὰ δὲ ἐπάνω κατὰ κώμας καὶ νομαδίας οἰκεῖται πονηροῖς ἀνθρώποις διφώνοις, οἷς παραπίπτοντες ἀπὸ τοῦ μέσου πλοὸς ὁτὲ μὲν διαρπάζονται, οἱ δὲ καὶ ἀπὸ ναυαγίων σωθέντες ἀνδραποδίζονται .... Καθόλου μὲν οὗτος ὁ τῆς ᾿Αραβικῆς χώρας ἠπείρου παράπλους ἐστὶν ἐπισφαλής, καὶ ἀλίμενος ἡ χώρα καὶ δύσορμος καὶ ἀκάθαρτος ῥαχίαις καὶ σπίλοις ἀπρόσιτος καὶ κατὰ πάντα φοβερά.

[1213] Apart from renewed excavations at Adulis, now rendered unlikely by the political situation in Ethiopia, there appears to be little chance of finding other Greek sites on the Red Sea coast south of the Egyptian frontier.

[1214] So J. DORESSE, L'Éthiopie et l'Arabie méridionale, aux IIIe et IVe siècles A.D. d'après les découvertes récentes, Kush 5 (1957), 49—58; H. DE CONTENSON, Les premiers rois d'Axoum d'après les découvertes récentes, JA 248 (1960), 80. Considerable importance has been attached to the fact that the Coptic version of Mani's Kephalaia (see C. SCHMIDT [ed.], Manichäische Handschriften der Staatlichen Museen Berlin, I [Stuttgart 1940], 188—189) mentions Axum as one of the four great kingdoms in the world; see e. g. J. DORESSE, op. cit., 57—58. The question of late Axumite chronology is taken one step further by ALTHEIM, who argued that the first Christian king of Axum, Ezana, did not reign until the middle of the fifth century of our era; see F. ALTHEIM and R. STIEHL, Die Datierung des Königs 'Ēzānā von Aksum, Klio N.F. 39 (1961), 234—248; answered by A. DIHLE, Umstrittene Daten, 36—64 and H. v. WISSMANN, Le Muséon 77 (1964), 490—491; DIHLE's view approved by J. DESANGES, Annales d'Éthiopie 7 (1967), 155.
Unknown to the participants in the controversy, the evidence to reject conclusively ALTHEIM's chronology has always been available. A hoard of 2,741 coins from Qau el-Kebir in Egypt contained 16 imitation Christian Axumite coins. The hoard is securely dated by the absence of any coins later than Zeno to c. A.D. 480; see description in J. G. MILNE, Feudal Currency in Roman Egypt, Ancient Egypt (1926), 1.5—9. A small similar hoard has been found at Hawara: over 800 small bronze pieces, the latest of Zeno, and 5 small imitation bronzes of a Christian Axumite king; see H. DRESSEL, Erwerbungen des Kgl. Münzcabinets in den Jahren 1890—1897, ZfN 21 (1898), 238—239. The imitations show signs of considerable wear, indicating a long period of circulation. The Greek Christian inscription of Ezana found in 1969 has also been cited against ALTHEIM's revisions, see F. ANFRAY, A. CAQUOT and P. NAUTIN, Une nouvelle inscription grecque d'Ézana, roi d'Axoum, JS (1970), 269.

[1215] A few scholars have argued that all the political events referred to are not contemporaneous; see W. H. SCHOFF, As to the Date of the Periplus, JRAS (1917), 830; H. DE CONTENSON, JA 248 (1960), 75—80. Cf. B. N. MUKHERJEE, Kanishka I, 123—124, who accepts the argument for a unitary composition but suggests that the political conditions mentioned in the 'Periplus' are a composite of the author's 40—45 year career at sea!

[1216] Periplus c. 5 (= FRISK, p. 2. 19—22): Βασιλεύει δὲ τῶν τόπων τούτων ἀπὸ τῶν Μοσχοφάγων μέχρι τῆς ἄλλης Βαρβαρίας Ζωσκάλης, ἀκριβὴς μὲν τοῦ βίου καὶ τοῦ πλείονος ἐξεχόμενος, γενναῖος δὲ περὶ τὰ λοιπὰ καὶ γραμμάτων ῾Ελληνικῶν ἔμπειρος.

Cf. A. Dihle, Umstrittene Daten, 20, who assumes that Greek came to be used by the Axumites because it was the dominant language in Red Sea commerce. A long period of hellenization is also suggested by F. Gisinger, RE 10 A (1972), s. v. Zoskales, 846.

[1217] Conti Rossini argued that the first Axumite king to strike coins was Afilas, who imitated the coinage of his „*amici di Palmira, Vaballato e Zenobia*", C. Conti Rossini, Monete Aksumite, Africa Italiana 1 (1927), 180, 188—198; cf. the criticisms of A. Anzani, Numismatica e storia d'Etiopia, RIN 4 ser. 5/6 (1928/29), 7—31, 33—34, who places the following into the first period of Axumite emissions: Afilas, Endybis, Ousanas, Wazeb, Ella Amida, Ezana as pagan, followed by the Christian coinage of Ezana. Anzani also suggests a date in the third century for the initiation of Axumite coinage; see A. Anzani, Le monete dei re di Aksum, RIN 4 ser. 43 (1941), 87—89. Both gold and copper coins circulated widely along the shores of the Red Sea and many specimens have been found in Aden; see W. F. Prideaux, The Coins of the Axumite Dynasty, NC 3 ser. 4 (1884), 213, 215—217; so also presumably the coins of the Muncherjee collection, see A. Kammerer, Les monnaies Abyssines de la Collection Muncharjee d'Aden, RN 4 ser. 29 (1926), 41—51. Silver coins of pre-Christian rulers and of the pagan period of Ezana were found in the 1958 excavations at Axum. See H. de Contenson, Aperçus sur les fouilles à Axoum et dans la Région d'Axoum en 1958 et 1959, Annales d'Éthiopie 3 (1959), 101. See also the brief general surveys of F. Anfray, Les rois d'Axoum d'après la numismatique, JEH 6.2 (1968), 1—5 and R. Pankhurst, The Greek Coins of Aksum, Abba Salama 6 (1975), 70—83 (primarily a history of scholarship on Axumite coinage). An indication of how little is known about the coinage of Axum is that recently Buttrey was able to publish four new types of Axumite *aurei* and also to add two new kings to the list of those who issued coins, see T. V. Buttrey, Axumite Addenda, RSE 25 (1971/72), 44—52.
For king-lists in medieval Ethiopian manuscripts see the material collected by C. Conti Rossini, Les listes des rois d'Aksoum, JA 10 ser. 14 (1909), 263—320.

[1218] The basic corpus of texts is E. Littmann, Deutsche Aksum-Expedition 4: Sabäische, griechische und alt-abessinische Inschriften (Berlin 1913). DAE no. 3, Greek inscription of King Sembruthes, is republished from the original stone in F. Altheim and R. Stiehl, Klio N.F. 39 (1961), 211—242. A further Greek inscription of an Axumite king was found at Meroe: A. H. Sayce, A Greek Inscription of a King(?) of Axum Found at Meroe, PSBA 31 (1909), 189—203; re-edited in F. Altheim and R. Stiehl, Klio N.F. 39 (1961), 242—245 (with photograph). In 1969 a Greek inscription of Ezana was found at Enda Kaleb, see F. Anfray, A. Caquot and P. Nautin, JS (1970), 260—273.

[1219] For the chronology of the 'Periplus' see above pp. 663—665.

[1220] J. Pirenne, Un problème-clef pour la chronologie de l'Orient: la date du 'Périple de la Mer Érythrée', JA 249 (1961), 441—459; Idem, Le royaume sud-arabe, 167—193; cf. Beeston's description of Pirenne's theories as "a tenable alternate hypothesis", A. F. L. Beeston, BiOr 17.3/4 (1960), 199. Attacked by A. Dihle, Umstrittene Daten, 10—35.

[1221] Pirenne's date, although not all of her arguments, is accepted by H. von Wissmann, Zur Archäologie und antiken Geographie von Südarabien, 13; cf. J. Ryckmans, La chronologie des rois de Saba et Ḏū-Raydān (Istanbul 1964), 12—15, 18—19, who notes that Pirenne's argument from silence, that Qataban is not mentioned in the 'Periplus', is a weak one. Ryckmans himself favours a third-century date on the basis of his own identifications of the Arab rulers mentioned in the text (see below); see also A. G. Loundine and J. Ryckmans, Nouvelles données sur la chronologie des rois de Saba et Ḏū-Raydān, Le Muséon 77 (1964), 422, where a date of 208/210 is given for the 'Periplus'. For Altheim's third-century date see above p. 796, n. 658. The third century date is also argued by R. C. Majumdar, The Date of the Periplus of the Erythraean Sea, IHQ 38.2/3 (1962), 89—97; cf. W. Raunig, Die Versuche einer Datierung des 'Periplus maris Erythraei', MAGW 100 (1970), 238—239.

[1222] See J. Pirenne's two major works: 'Paléographie des inscriptions sud-arabes. Contribution à la chronologie et à l'histoire de l'Arabie du Sud antique, 1. Des origines à l'époque himyarite' (Bruxelles 1956), and 'Le royaume sud-arabe de Qatabân et sa datation d'après l'archéologie et les sources classiques jusqu'au Périple de la Mer Erythrée' (Louvain 1961). Other articles by the same author are cited below.

The study of the ancient history of South Arabia has since its inception relied primarily on inscriptions. With the exception of a very small number of references in Greek and Latin authors, frequently based on second-hand or out-of-date information, no synchronisms exist (except the 'Periplus') by which the dynasties of Southern Arabia can be dated. The inscriptions are almost never dated, and where some indication of a date exists the starting point of the method of reckoning involved is controversial. The inscriptions lend themselves in some instances to the establishment of genealogical descent and occasional synchronisms between contemporary rulers, but a reliable absolute chronology remains elusive. In the absence of other chronological information palaeography has become a primary tool for historical reconstruction. Confirmation of any palaeographic scheme must, however, rest on some exterior synchronism, and here ancient accounts of the expedition of Aelius Gallus and the information in the 'Periplus' are of great importance. J. Pirenne has in the above studies inverted the normal order of procedure by redating a historical document like the 'Periplus' (for another instance see above n. 480) to suit her overly rigid palaeographic analysis. Anyone familiar with the recent controversies in fifth-century Athenian epigraphy will approach historical arguments based purely on epigraphic palaeography with a great deal of caution. As was shown in the controversy over the date of the Athenian Coinage Decree, dating by letter forms is at best an inexact science. Greater accuracy can only be achieved by a comparison of an undated ductus with a number of firmly dated texts from the same region and written on the same material; see, for example, R. Meiggs, The Dating of Fifth-Century Attic Inscriptions, JHS 86 (1966), 86—98. The confounding of lapidary, numismatic and papyrological palaeography, as was done in dating the now notorious Malichus papyrus (see below n. 1347), leads to demonstrably disastrous results. Other factors, too, must be considered; deliberate archaizing in the script, the use of an earlier technique by an old stonemason, and the influence on the stonemason of older letter-forms in inscriptions already on a given rock surface. The latter possibility can certainly not be overlooked in Southern Arabia, since many stone surfaces had texts engraved on them over a period of several centuries. Certainly in the absence of any securely dated inscriptions a scheme such as that constructed by Pirenne, where some inscriptions are palaeographically dated to within a decade, can command no credibility.

[1229] The key element in the new interpretation is Ry 535 = Ja 576 from Maḥram Bilqîs (Marib). The inscription recounts the campaigns of the brothers 'Ilšarah Yaḥḍub and Ya'zil Bayyin, kings of Saba' and Du-Raydan, against Šamir of Du-Raydan and others including the king of Axum, the tribe of Kindat, and a further Arab ruler (on his name see below). The text was first published by G. Ryckmans, Inscriptions sud-arabes: treizième série, Le Muséon 69 (1956), 139—163; J. Ryckmans, Petits royaumes sud-arabes d'après les auteurs classiques, Le Muséon 70 (1957), 83—84; J. Pirenne, L'Inscription 'Ryckmans 535' et la chronologie sud-arabe, Le Muséon 69 (1956), 165—181. Pirenne's main arguments are the identification of the Šamir of Du-Raydan of Ry 535, CIH 314 and RES 4336 with Šamir Yuhar'iš bin Yasrum Yuhar'im of the late third century (CIH 46, 448, Gl 1594, Ja 646, etc.) (for the various interpretations of the meaning of *ḏrydn* in royal titles, e. g. *mlk/sb' / wḏrydn*, see J. Ryckmans, L'institution monarchique en Arabie meridionale avant l'Islam [Louvain 1951], 160—162; Idem, Le Muséon 70 [1957], 81: the territory took its name from the fortress of Raydan at Zafar and corresponds with Himyar; cf. A. Jamme, Pièces épigraphiques de Ḥeid bin 'Aqîl, la nécropole de Timna' [Hagr Koḥlân], [Louvain 1953], 21 n. 13, and Idem, Sabaean Inscriptions from Maḥram Bilqîs [Marib], 296—297: the name refers to the Qat tribe and the region south of Wadi Beiḥan). The second crucial identification Pirenne makes is that of Mara'lqays bin 'Amr in line 2 (reading the text as: *mr'/qs/bn/'[mr]m/*

mlk/ẖṣṣtn with 'Imru'l-qays bin ʿAmr of the funerary inscription from en-Nemarah, which bears a date in the Bostra era equivalent to A.D. 328 (for this inscription see R. DUSSAUD, Inscription nabatéo-arabe d'en-Nemâra, RA 3 ser. 41 [1902], 409—421 = RES 483; also W. SESTON, in: Mélanges Dussaud, 229—234; H. v. WISSMANN, Le Muséon 77 [1964], 486—489). The results derived from PIRENNE's synchronism are a redating of 'Ilšarah Yaḥdub and his brother into the late third century, a change of over 300 years. It is from this change that the need to redate the 'Periplus' arose. JAMME, who first discovered the inscription, argued that the RYCKMANS and PIRENNE text contained sixty-nine errors of decipherment, which when corrected remove the epigraphical basis for the new dating; see A. JAMME, On a Drastic Current Reduction of South Arabian Chronology, BASOR 145 (1957), 25—30. In the crucial line 2 JAMME reads *mr' lqs/bn/ ʿwfm/mlk/ẖṣṣtn* — Mara'laqas bin ʿAwfum — and identifies H̱iṣâṣatan with an unattested and purely imaginary kingdom around Aden. PIRENNE returns to the debate in 'Le royaume sud-arabe', 28—30, pl. I, but the photograph she publishes there of the vital line is of unusually poor quality. Cf. H. ST. J. B. PHILBY, Notes on Ryckmans 535, Le Muséon 73 (1960), 395—417 with qualified approval of PIRENNE, and also J. RYCKMANS, Le Muséon 80 (1967), 296—298. I shall return to this problem elsewhere in a detailed discussion of the date of the 'Periplus'. Caution is clearly necessary in accepting PIRENNE's hypothesis. Homonyms abound in early Arabian inscriptions and the exact location of Mara'laqas' kingdom cannot be identified. One piece of evidence, however, is perhaps fatal to PIRENNE's identification: Nagrān, the city of Šamir Yuharʿiš, which 'Imru'l-qays (cf. RES 483) captured, lies well north of Maʿin and Marib. The Šamir Du-Raydan of Ry 535, whom PIRENNE identifies with Šamir Yuharʿiš, never had any territory that far north. Šamir Du-Raydan in Ry 535 is a ruler of Southwest Arabia, hence his request for aid from Axum. 'Ilšarah Yaḥdub and Ya'zil Bayyin, Šamir's enemies, controlled Marib, Maʿin and the Sabaean highlands which lay between Himyar and Nagrān.

1224 W. F. ALBRIGHT and company began the excavations at Timnaʿ with preconceived notions about the destruction of Qataban and much of the confusion in the reports from the site results from adjustments made as it became increasingly obvious that the city still existed after the expedition of Aelius Gallus. See W. F. ALBRIGHT, The Chronology of Ancient South Arabia in the Light of the First Campaign of Excavation in Qataban, BASOR 119 (1950), 9—10 confidently gives c. 50 B.C.; IDEM, Zur Chronologie des vorislamischen Arabien, Akten des XXIV. Int. Orient.-Kongress (Munich 1957), 154—155 gives c. A.D. 15—25; IDEM, in: J. HEMPEL and L. ROST, Von Ugarit nach Qumran, 4, changes his date to A.D. 10—20: see the criticisms in J. PIRENNE, Le royaume sud-arabe, 48—56, who argues that the Arretine ware from the site is not in conflict with her date c. 200 for the destruction of Qataban and A.D. 60—100 for the flowering of Timnaʿ. A compromise date of c. A.D. 90—100 is suggested by H. v. WISSMANN, Le Muséon 77 (1964), 465.

The pottery from the site was published by H. COMFORT, in: R. LE BARON BOWEN and F. P. ALBRIGHT, Archaeological Discoveries in Southern Arabia, 199—207. The houses and cemetery at Timnaʿ contained 9 sherds of Arretine ware from eight different vessels and plates. The latest Arretine sherds are from the same period as the last phase at Haltern, which was abandoned in A.D. 9 (COMFORT's hesitation between A.D. 9 and 16 was used by PIRENNE to challenge the reliability of any precise date for the pottery; the date is definitely A.D. 9, see K. KRAFT, Das Enddatum des Legionslagers Haltern, BJ 155/156 [1955/56], 95—111); IDEM, Zum Legionslager Augsburg-Oberhausen, in: F. WAGNER (ed.), Aus Bayerns Frühzeit (Munich 1962), 139—156 and C. M. WELLS, The German Policy of Augustus, 166—167, 200—261). Even when all of the cautionary remarks of G. MACDONALD, The Dating-Value of Samian Ware: A Rejoinder, JRS 25 (1935), 187—200 are borne in mind and the possibility that some pieces could remain in use for a generation and even be repaired, are considered, it is not possible to find a date later than A.D. 30—40 for Timnaʿ; cf. E. ETTLINGER, Keramik-Datierungen der frühen Kaiserzeit, JSGUF 54 (1968/69), 69—71 who argues on the basis of the finds from securely dated sites that the import of Arretine ware came to an end in Switzerland c. A.D. 20. Arretine ware was exported in large quantities to many sites in the Near East and India and there is no need to allow a long period of time for its arrival at a site. For Arikamedu see below n. 1330. On Arretine ware from Coptos see A. J. Reinach, Bull. Soc. fr. de Fouilles Arch. 3 (1912), 82 n. 1 (with a list of potters' stamps); finds at Oboda in the Nabataean kingdom: A. Negev, IEJ 17.1 (1967), 46—47; Italian terra sigillata found in the Scythian hill fort at Zolotaia Balka: M. B. Shchukin, K istorii nizhnego podneprov'ia v pervye veka nashem ery, AS 12 (1970), 57. For both Arretine and South Italian wares in the Near East see J. H. Iliffe, Sigillata Wares in the Near East, QDAP 6 (1936/37), 19—20, 26—53.

[1225] Periplus c. 23 (= Frisk, p. 7.27—29) gives a number of important details in describing the road inland from Μούσα to Σαυή and then to ⟨Σ⟩αφὰρ μητρόπολις, ἐν ᾗ Χαριβαήλ[α], ἔνθεσμος βασιλεὺς ἐθνῶν δύο, τοῦ τε 'Ομηρίτου καὶ τοῦ παρακειμένου λεγομένου Σαβαίτου, συνεχέσι πρεσβείαις καὶ δώροις φίλος [δὲ] τῶν αὐτοκρατόρων. For τύραννος in the 'Periplus' see J. Kennedy, Heraus, ὁ τύραννος, JRAS (1913), 125—126. A further detail has been neglected: Periplus c. 24 (= Frisk, p. 8. 9—10) lists among the exports from Muza σμύρνα ἐκλεκτὴ καὶ στακτή, 'Αβειρ⟨αια καὶ⟩ Μιναία. Since the export of spices tended to be a royal monopoly (see below n. 1240) in South Arabia Χαριβαήλ probably also controlled at least part of the area of the old Minaean state. The impressive size of the kingdom and the fact that Χαριβαήλ reigned long enough to send embassies to at least two successive emperors (so Periplus c. 23 (= Frisk, p. 7.29—30) suggest a long and important rule. The Karib'il of Ḏū-Raydan (*krb'l/ḏrydn*), a Himyarite ruler mentioned in Ja 578, 586 and 589 is thus an unlikely candidate for the man in the 'Periplus'. Karib'il of Ḏū-Raydan was apparently easily overcome by 'Ilšarah Yaḥḍub and Ya'zil Bayyin. The identification of the two suggested by J. Ryckmans, La chronologie des Rois de Saba et Ḏū-Raydan, 14—15 must thus be dismissed. The identification was also made by H. v. Wissmann, Le Muséon 77 (1964), 477—479. In fact none of our inscriptions even give this Karib'il the title *mlk*.

A second prospect is somewhat more likely: Karib'il Watar Yuhan'im bin Wahab'il Yaḥûz, king of Saba' (*mlk/sb'*) and rival of Yarum 'Ayman, so W. F. Albright, JAOS 73 (1953), 38—39. This ruler is not well attested (CIH 326, Ja 563 and 564) and the major event known from his reign is a revolt at Marib (Ja 564). The implication of this text may be that Marib is not Karib'il's capital, since Salhân, the royal fortress at Marib, was in the hands of his governors from the tribe of Gaymân. Inscriptions referring to the three members of this dynasty (Wahab'il Yahûz, the father of Karib'il: CIH 315, 333, 360, Ja 561bis, to Karib'il himself, and to 'Anmarum Yuha'min, Ja 562, RES 3992) are found mostly in Marib or the Sabaean highlands, which are the home of the Hamdanids and where several shrines of their god Ta'lab are located. There is thus nothing in the inscriptions which takes one beyond the Marib oasis and the Sabaean highlands to the West. There is no trace of these rulers further southwest by the Red Sea. Furthermore Karib'il's reign was probably a short one: in his later years he was a co-regent with Yarum 'Ayman (RES 4190 and Ja 565) who eventually ruled alone (CIH 312) and the latter's son, 'Alhân Nahfân, who eventually succeeded him was already active in the reign of Wahab'il Yaḥûz (Ja 461bis.1—2: *yrm/'ymn/* .... */wbnhw/ 'l[hn)*.

A more likely candidate for the ruler in the 'Periplus' is Karib'il Watar Yuhan'im bin Ḏamar'alay Bayyin. This identification has enjoyed the support at various times of J. Ryckmans, La chronologie sud-arabe du premier siècle avant notre ère, BiOr 10.6 (1953), 207; cf. Idem, Chronologie des Rois de Saba et Ḏū-Raydān, OA 3 (1964), 77; A. F. L. Beeston, Problems of Sabaean Chronology, BSOAS 16.1 (1954), 55; A. Jamme, Sabaean Inscriptions, 391. Karib'il Watar Yuhan'im and his descendents are known from inscriptions at Marib, Šibâm 'Aqyān and in the regions of the former Minaean kingdom and Q̣ataban. An important text, Ja 644, of Karib'il's son, Ḏamar'alay Ḏarih provides some clues: a force of Šadâdites led by Laḥay'aṯat captures the royal palace of Salḥan; the uprising was crushed by the king's son Yuhaqam, who commemorated the event in an inscription in far-off Šibâm 'Aqyān with the aid of the tribe Gaymân from the vicinity of San'â' (CIH 143); the final defeat of the rebels came at Kawmanân located just north of Jebel Isbil, about 40 miles north of Ẕafar. The inscriptions of Ḏamar'alay Ḏariḥ and his son give some indication of the size of the kingdom of Ḏamar'alay Bayyin's ancestors (including Karib'il) and the failure to mention Ḏamar'alay Ḏariḥ in Ja 644 suggests that Marib may not have been the capital.

[1226] The earliest mention of Himyar occurs in Pliny, NH VI.158. The passage is traced back to Uranius via Juba by J. Pirenne, Le royaume sud-arabe, 128. For date of Uranius see above n. 775. On the Himyarite kingdom see H. v. Wissmann, Le Muséon 77 (1964), 443—494. The ruler of this kingdom is the Χαριβαήλ mentioned in the 'Periplus'.

[1227] But see J. Ryckmans, BiOr 10.6 (1953), 206.

[1228] The argument from silence, that Qataban does not appear in the 'Periplus', is not a strong one, but excavations at Timna' do not yield a date later than A.D. 30/40; see above n. 1224.

[1229] See C. Conti Rossini, Expéditions et possessions des Habašāt en Arabie, JA 11 ser. 18 (1921), 10—18, 35—36, who sees an Ethiopian intervention in Southern Arabia in the first century B.C., but believes that the Habashat had retained a foothold there after colonizing Ethiopia.

[1230] Since the early centuries of the Christian era were considered too early for the spread of Axumite power across the Red Sea, a number of scholars argued that the *ḥbšt* of the inscriptions were a people of South Arabia; so E. Glaser, Die Abessinier in Arabien und Afrika (Munich 1895), 84—98; C. Conti Rossini, Storia d'Etiopia, 1.109—113. Cf. J. Doresse, L'Éthiopie et l'Arabie méridionale aux IIIe et IVe siècles A.D. d'après les découvertes récentes, Kush 5 (1957), 49—56 for the Habashat in Ethiopia; so also W. F. Albright, JAOS 73 (1953), 39 n. 8, who suggests the identification of *GDRṮ* with Agdūr in the Axumite king-list.
Irvine's analysis of *ḥbšt* in early south Arabian inscriptions has shown against Glaser and Conti Rossini that *ḥbšt* cannot refer to a people in South Arabia but rather to Axum; see A. K. Irvine, On the Identity of Ḥabashat in the South Arabian Inscriptions, JSmSt 10 (1965), 178—196. CIH 308 mentions an Ethiopian king *GDRṮ*, who intervened in the affairs of Southern Arabia; cf. the Axumite king *GDR* on a bronze votive offering excavated at Tigre, JE no. 5; see A. Caquot and A. J. Drewes, Annales d'Éthiopie 1 (1955), 32—39; cf. J. Doresse, Kush 5 (1957), 54.

[1231] Although Jamme does not acknowledge this, it is a conclusion which must follow from the identification of the Χαριβαήλ in the 'Periplus' with Karib'il Watar Yuhan'im II (i. e. bin Ḏamar'alay Bayyin). Jamme, Sabaean Inscriptions, 390—391 dates the dynasty of Wahab'il Yaḥûz to c. 160—50 B.C. and places it before that of Damar'alay Dariḥ. The same relative placement in J. Ryckmans, Le Muséon 80 (1967), 279—285, but with a much later date. The Habashat appear already in inscriptions of the reigns of 'Alhân Nahfân, Ša'irum 'Awtar and the co-regency of 'Ilšarah Yaḥḍub and Ya'zil Bayyin (for the latter two see above n. 1223).

[1232] For the date of Cosmas' visit to Adulis see A. F. L. Beeston, BSOAS 16.1 (1954), 37—40; cf. also W. Wolska, La Topographie Chrétienne de Cosmas Indicopleustès, théologie et science au VIe Siècle (Paris 1962), 9, 11. The inscription is published as OGIS 199 = SB V.8545b. The primary clue is the unknown king's statement (ll.29—30: πάντα δὲ ταῦτα τὰ ἔθνη πρῶτος καὶ μόνος βασιλέων τῶν πρὸ ἐμοῦ ὑπέταξα); if accepted as true, then the inscription can be referred to the period of the first Axumite intervention in Arabia, but cf. C. Conti Rossini, JA 11 ser. 18 (1921), 21, who argues that this could be simple rhetoric on the part of the document's royal author. The text is usually attributed to an early Axumite king and various dates have been proposed: F. Gisinger, RE 10 A (1972), s. v. Zoskales, 848, argues for a king before Zoskales (whom he places in the mid first century); C. Conti Rossini, Storia d'Etiopia, 1. 124—125 (c. A.D. 270);

J. Ryckmans, Le Muséon 70 (1957), 84, 94—95 (before Ptolemy's 'Geography'); J. Doresse, Kush 5 (1957), 56—58 (before the middle of the third century); F. Altheim and R. Stiehl, Klio N.F. 39 (1961), 247 (A.D. 260—280); cf. Idem, Geschichte der Hunnen, 5 (Berlin 1962), 168—174, 181—184, who attribute the inscription to Sembruthes and date the events to the early fifth century (the entire chronological theory upon which this is based must, however, be rejected; see above n. 1214); H. de Contenson, JA 248 (1960), 82—83 (A.D. 250—285); H. v. Wissmann, Le Muséon 77 (1964), 472—474 (c. A.D. 100); A. K. Irvine, JSmSt 10 (1965), 195 (third century); Caskel suggests that the, to his mind, unusual names found in late Lihyanite inscriptions may be due to such an Axumite invasion in the early second century, W. Caskel, Lihyan, 43. It has been suggested by Drewes that the unknown king of the Adulis inscription is not an Axumite but rather a Himyarite king, whom he identifies as Šamir Yuhar'iš of the late third century: A. J. Drewes, Inscriptions de l'Éthiopie Antique (Leiden 1962), 102—107 (also identifying Sembruthes with Šamir Yuhar'iš and the king in the 'Monumentum Adulitanum'). This theory is supported by L. P. Kirwan, GJ 138.2 (1972), 172—176.

The key problem posed by the text comes in lines 25—29: καὶ πέραν δὲ τῆς Ἐρυθρᾶς / θαλάσσης οἰκοῦντας Ἀρραβίτας καὶ Κιναιδοκολπίτας † στράτευμα ναυτ/ικὸν καὶ πεζικὸν διαπεμψάμενος καὶ ὑποτάξας αὐτῶν τοὺς βασιλέας φό/ρους τῆς γῆς τελεῖν ἐκέλευσα καὶ ὁδεύεσθαι μετ' εἰρήνης καὶ πλέεσθαι, / ἀπό τε Λευκῆς κώμης † ἕως τῶν Σαβαίων χώρας ἐπολέμησα. See map in H. v. Wissmann, Le Muséon 77 (1964), 473, fig. 6. The problem has been to find a period when such operations on or even within the Roman frontier were possible. The usual answer has been to place the events in the late third century or later. If the identifications discussed above (n. 1225) are accepted, then the Adulis text may refer to events contemporary with the late Ptolemaic period.

[1233] Note the southward expansion of the Roman-Egyptian frontier described above p. 866, n. 898 and the new evidence for the southward extension of the province of Arabia below n. 1348.

[1234] For the date of the 'Periplus' see above pp. 663—665.

[1235] For the palaeographic basis of most chronological theories in this area, see above n. 1222.

[1236] The earliest evidence for Axumite expansion inland may come from a rock drawing of the early first century of our era at Jebel Qeili within the central area of the Meroitic kingdom. A Meroitic king, Sherkurer, is depicted triumphing over unidentified enemies. The latter have been interpreted by some as Axumites: so F. Hintze, Preliminary Report of the Butana Expedition, 1958, Kush 7 (1959), 190; L. P. Kirwan, Kush 8 (1960), 171. It is, however, argued that the first century is too early for the existence of an Axumite kingdom: so, for example, L. P. Kirwan, GJ 138.4 (1972), 460 and other scholars cited above n. 1214. Apart from this most of our evidence for Axumite expansion to the West comes from Axumite inscriptions of the third and fourth centuries: the first is a Greek inscription from the vicinity of Meroe of an unknown pagan king of Axum, who commemorates his victory over Meroe; cf. F. Altheim and R. Stiehl, Klio N.F. 39 (1961), 244—245, who identify the king as Sembruthes; Idem, Geschichte der Hunnen, 5.172—174. The second is the famous Ge'ez inscription of Ezana in which he describes his campaigns in the Sudan against the Noba and the Kasu: DAE IV no. 11; cf. the re-edition with commentary by E. Littmann, Aithiopische Inschriften, Misc. Acad. Berol. 2.2 (1950), 97—126. The third, a recently published inscription, describes in Greek the preliminaries of Ezana's campaign against the Noba; see F. Anfray, A. Caquot and P. Nautin, Une nouvelle inscription grecque d'Ézana, roi d'Axoum, JS (1970), 260—274. In general on the problem of Axumite expansion in the Sudan see L. P. Kirwan, GJ 138.4 (1972), 457—465. Objects of Meroitic origin are rare in the Axumite kingdom, e. g. the discovery of a Meroitic amulet at Haoulti, H. de Contenson, CRAI (1959), 255; also above n. 917.

[1237] Periplus c. 6 (= Frisk, p. 2. 29—31) lists among the imports to Adulis: σίδηρος ὁ δαπανώμενος εἴς τε λόγχας πρὸς τοὺς ἐλέφαντας καὶ τὰ ἄλλα θηρία καὶ τοὺς πολέμους.

Ὁμοίως δὲ καὶ πελύκια προχωρεῖ καὶ σκέπαρνα καὶ μάχαιραι . . . The passage has been neglected in a recent controversy in which it has considerable relevance. R. MacMullen, Roman Social Relations, 35, 158—159, n. 26 argues that Rome imposed universal disarmament on her subjects. As P. A. Brunt, Did Imperial Rome Disarm her Subjects, Phoenix 29.3 (1975), 260—270 pointed out in rejecting this hypothesis, although Marcianus mentions a *lex Iulia* which forbade the collection of arms (Dig. 48.6.1: *Lege Iulia de vi publica tenetur, qui arma tela domi suae agrove inve villa praeter usum venationis vel itineris vel navigationis coegerit*), Scaevola notes that arms dealers were exempt (Dig. 48.6.2: *Excipiuntur autem arma, quae quis promercii causa habuerit hereditateve ei obvenerint.*) To support his case MacMullen refers to Philo in Flaccum 92—93 who reports that A. Avillius Flaccus ordered that all arms be collected from the populace. That such a measure was not permanent is clear from two texts neglected in the controversy: the Periplus passage cited above and P. Giss. 47, a letter from a subordinate to the *strategus* Apollonius about a shopping expedition in Coptos: [Ὁ] μὲν γὰρ θῶραξ ἐκ καλοῦ ὠροχάλκου ὢν καὶ [τ]ὴν πλοκὴν λεπτότατος καὶ τὸ μεῖζον ἐλα[φ]ρότατος ὡς μὴ κάμνειν τὸν φοροῦντα αὐτὸν [ἠ]γοράσθη πολλῶν ἀξιολόγων συνεληλυθότων [μ]ο̣ι φί[λ]ων ἀργ(υρίου) (δραχμῶν) τ̅ξ̅ ἀντὶ πλείονος . . . Παραζώ[ν]ιον γὰρ πρὸς τὸ παρὸν γνησίον οὐχ εὑρ̣έ̣θη, ἀλλ' οὐδ̣ὲ ἐδικαίωσα ἀγοράσαι ἀποδοκιμασθῆναι δυνάμενον (reign of Hadrian). In the famous νόμος τελωνικός the heading on missing col. iii is ὅπλα, Chrest. Wilck. 273, see above nn. 550—551. The evidence for the private production of arms for the military is collected in R. MacMullen, Inscriptions on Armor and the Supply of Arms in the Roman Empire, AJA 64.1 (1960), 25—27. A considerable number of graves in Gaul and North Africa containing various types of weapons also suggests the possibility that veterans retained their arms and also possibly that the civilian population had access to weapons, see W. Hübener, Zu den provinzialrömischen Waffengräbern, SJ 21 (1963/64), 25; A. van Doorselaer, Provinzialrömische Gräber mit Waffenbeigaben aus dem Rheinland und Nordfrankreich, ibid., 26—31.

The 1954—1958 excavations at Axum have only yielded material from the late third century onward. For the Roman amphorae found in these excavations see H. de Contenson, Les premiers rois d'Axoum d'après les découvertes récentes, JA 248 (1960), 87. The earliest Axumite pottery imitates Roman pottery of the first and second centuries, DAE II.211—213.

[1238] Cf. above n. 1218.

[1239] Greek or Hellenistic influence is only present in the form of imitation Athenian coins (see below n. 1243) and some of the sculpture from Timna' (see above n. 1114). Along the caravan route to the spice kingdoms the most southerly Greek graffiti occur at Medain-Salih: Jaussen and Savignac, Mission, I. p. 122.

[1240] See Periplus c. 27 (= Frisk, p. 9. 8—10) on the Hadhramaut capital of Saubatha: πᾶς δ' ὁ γεννώμενος ἐν τῇ χώρᾳ λίβανος εἰς αὐτὴν ὥσπερ ἐκδοχεῖον εἰσάγεται καμήλοις τε καὶ σχεδίαις ἐντοπίαις δερματίναις ἐξ ἀσκῶν καὶ πλοίοις and c. 32 (= Frisk, p. 10. 29—30 — p. 11. 1—7): καὶ μετ' αὐτοὺς ὅρμος ἀποδεδειγμένος τοῦ Σαχαλίτου λιβάνου πρὸς ἐμβολήν, Μόσχα λιμὴν λεγόμενος, εἰς ἣν ἀπὸ Κανὴ συνήθως πλοῖα πέμπεταί τινα καὶ παραπλέοντα ἀπὸ Λιμυρικῆς ἢ Βαρυγάζων, ὀψινοῖς καιροῖς παραχειμάσαντα, παρὰ τῶν βασιλικῶν πρὸς ὀθόνιον καὶ σῖτον καὶ ἔλαιον λίβανον ἀντιφορτίζουσιν παρ' ὅλον [δὲ] τὸν Σαχαλίτην χώμασι κείμενον καὶ ἀφύλακτον, δυνάμει θεῶν τινὶ τοῦτον τὸν τόπον ἐπιτηρούντων· οὔτε γὰρ λάθρα οὔτε φανερῶς χωρὶς βασιλικῆς δόσεως εἰς πλοῖον ἐμβληθῆναι δύναται· κἂν χόνδρον τις ἄρῃ, οὐ δύναται πλεῦσαι τὸ πλοῖον [ἀπὸ δαίμονος δίχα]. Two archaeological ruins have been connected with this spice monopoly. A large structure at Hanun containing nine long storage rooms and yielding a fragment of Samian ware has been described as a frankincense warehouse and the remains of a fortress at Anḍhur have also been hypothetically connected with the control exercised in antiquity over the collection of this spice, see R. L. Cleveland, The 1960 American Archaeological Expedition to Dhofar, BASOR 159 (1960), 16—18, 24—26. A large container excavated at Tell el-Heleyfeh bears monograms which have been interpreted to refer to the contents either as wine or as aromatic substances or spices, see P. BONESCHI, Encore à propos des monogrammes sud-arabes de la grande jarre de Tell el-Heleyfeh, RSO 43.2 (1968), 209—214; for small perfume bottles from tombs at Hureyda in the Hadhramaut see IDEM, Les inscriptions des vases à parfums et à cosmétiques du tombeau A 5 de Ḥureyḍa, RSO 40.4 (1965), 279—285.

[1241] This may be deduced from the Timnaʿ tariff inscription, RES 4337, on which see N. V. PIGULEVSKAJA, Zur Geschichte des Handels in und durch Südarabien im Altertum, JWG (1971), 2.145—147. This text is published with commentary by A. F. L. BEESTON, Qahtan. Studies in Old South Arabian Epigraphy, fasc. 1: The Mercantile Code at Qataban (London 1959), passim and idem, ibid., fasc. 2: The Labakh Texts (London 1971), 2—9.

[1242] The absence of any trace of Ptolemaic influence on the coins of the Southern Arabian kingdoms as well as failure to find any Egyptian coins in these regions is stressed by G. F. HILL, PBA (1915), 83. The text mentioned above (RES 4337) twice mentions gold coins: 4337 A.21 mentioning a fine of 50 *wrqm* (gold coins) but the possibility that these may be imported Ptolemaic gold coins is diminished by another line in the text, RES 4337 B.7—9: *štyṭm/n/w /...... nkwn/qtbn/*, see A. F. L. BEESTON, Qahtan. Studies in Old South Arabian Epigraphy, 12, who translates "a trading-tax of N gold pieces ... in Qatabanian coinage"; cf. also on this text A. K. IRVINE, JRAS (1964), 33—34 and 23, n. 2 (a list of the very rare known specimens of South Arabian gold coins).

[1243] Most of the known examples of these coins come from the hoard discovered at Ṣan'â; see G. SCHLUMBERGER, Le trésor de San'â (Paris 1880), non vidi. Cf. B. V. HEAD, On Himyarite and Other Arabian Imitations of Coins of Athens, NC 2 ser. 18 (1878), 273—284, who dates the first series of imitations after 412 B.C and the second after 36 B.C.; cf. G. F. HILL, The Ancient Coinage of Southern Arabia, PBA (1915), 58—66, who places the conversion to New Style Attic coinage among the Himyarite imitations to c. 115 B.C. and suggests that it may have come about as the result of a shortage of Attic coins. See also C. CONTI ROSSINI, Monete sud-arabiche, RAL 30 (1921), 241—243. The lower dating of New Style Attic tetradrachms which begins the coinage c. 164 B.C. and carries it down to c. 50 B.C. seems to me to be more correct; see D. M. LEWIS, The Chronology of the Athenian New Style Coinage, NC 7 ser. 2 (1962), 275—300, not convincingly rebutted by M. THOMPSON, Athens Again, ibid., 301—333. On the low chronology a significant break in minting falls in the second slave revolt at Laurium in 102—100 B.C. A number of South Arabian inscriptions use the term *blṭ* to describe a type of coin, e.g. CIH 73, 376, FAKHRY 30, 30bis, NAMI 74, Ja 624; see on these A. K. IRVINE, JRAS (1964), 19—24; on NAMI 74 see A. F. L. BEESTON, Notes on Old South Arabian Lexicography, IV, Le Muséon 65 (1952), 142—147; cf. J. RYCKMANS, Himyaritica (1), Le Muséon 69 (1956), 91—94.

There are also some very rare imitations of Alexander tetradrachms struck in the region. The only known specimens are a tetradrachm in Aberdeen and a drachm-size piece from the Danish excavations on Failaka: BMC, Arabia, pp. lxxxii-iii, pl. L.5; C. CONTI ROSSINI, RAL 30 (1921), 242—243; O. MØRKHOLM, KUML (1960), 204, fig. 5.1; cf. also a bronze imitation of an Alexander drachm from the Prideaux Collection, BMC, Arabia, pl. XI.23.

[1244] Athenian tetradrachms of the mid fifth century B.C. and later circulated widely throughout the Middle East. Imitations of these have been found at Al-Mina (IGCH nos. 1487 and 1488), Aleppo (no. 1490), in Palestine (no. 1491), Nablus (no. 1504), Abu Shushch (no. 1507) and Tell Tsippor (no. 1514). For other finds from Yebnah see C. LAMBERT, Egypto-Arabian, Phoenician and Other Coins of the Fourth Century B.C. Found in Palestine, QDAP 2.1 (1932), 1—5; in general on the influence of Athenian tetradrachms on the coinage of the Phoenician cities in the Persian period see A. KINDLER, The Greco-Phoenician Coins Struck in Palestine in the Time of the Persian Empire, INJ 1 (1963), 2—6, who also mentions finds from Tell Ghazze; a small hoard of imitations of Athenian 'owls' was found at Tell Gamma, L. Y. RAHMANI, Silver Coins of the Fourth Century B.C. from Tell Gamma, IEJ 21.2/3 (1971), 158—161. The large (over 6,000) hoard of Athenian tetradrachms found at Tell el-Mashkouta (ancient Pithom) included at least one Phoenician or Arabian imitation; see E. S. G. Robinson, The Tell el-Mashkuta Hoard of Athenian Tetradrachms, NC 6 ser. 7 (1947), 120—122. The practice of imitating Athenian tetradrachms can be traced southward by way of the Lithyanite kingdom of Dedan. For imitations of Athenian tetradrachms with Lihyanite legends see J. Walker, A Mysterious South Arabian Coin Legend, NC 6 ser. 8 (1948), 39—42; cf. the different readings in P. Boneschi, L'inscription liḥyānite d'anciennes monnaies tenues pour Sabéennes, RSO 26 (1951), 1—15; W. Caskel, Lihyan 55. For imitation Athenian coins with Aramaic legends struck in Babylon see G. LeRider, Tétradrachmes 'au lion' et imitations d'Athènes en Babylonie, SM 22 (1972), 1—7 (one hoard found at Hillah, the other marketed in Bagdad). The Tell el-Mashkouta hoard (see below) may provide some clue as to one path followed by Athenian coins coming into Arabia. The Athenian coins have been linked to a find of gold-mounted agates and silver bowls with Aramaic inscriptions found at a Qedarite Arab shrine at the site. The donor of one of the vessels, Qainu b. Gešem, king of Qedar, may also have ruled at Dedan; see I. Rabinowitz, Aramaic Inscriptions of the Fifth Century B.C.E. from a North-Arab Shrine in Egypt, JNES 15.1 (1956), 1—9, text C, pl. VI.A—B, cf. A. Lemaire, Un nouveau roi Arabe de Qedar dans l'inscription de l'autel à encens de Lakish, RB 81.1 (1974), 69—71.

[1245] There is abundant evidence for the circulation of Old Style Athenian tetradrachms and their imitations in Egypt. See in general the remarks of E. Schönert-Geiss, Die Geldzirkulation Attikas, Klio 56 (1974), 405—407. A hoard allegedly from Tell el-Athrib near Benha contained 700 coins of which 240 were recovered. Of these 98 had countermarks similar to those found on early Ptolemaic coins and 130 were local imitations similar to BMC, Attica, Megaris, Aegina, nos. 263—265 (also from Egypt). This, in addition to the find of a die for striking such imitations from the same site suggests that Athenian tetradrachms circulated in Egypt and were imitated by local authorities there; see G. Dattari, Comments on a Hoard of Athenian Tetradrachms Found in Egypt, JIAN 8 (1905), 103—114, pl. II.1—3 (for the die). For further dies found in Egypt see J. H. Jongkees, Athenian Coin Dies from Egypt, NC 6 ser. 10 (1950), 298—301 (several made of lead and therefore intended for no practical purpose).

See also the large hoard of Athenian tetradrachms found at Tell el-Mashkouta: P. Naster, Un trésor de tetradrachms athéniens trouvé a Tell el-Mashkouta (Égypte), RBN 94 (1948), 5—14; cf. M. Jungfleisch, Le trésor de Tell el Mashkouta. Note complémentaire, RBN 95 (1949), 121—125. More recently, see the Asyut hoard, which contained 128 tetradrachms; cf. IGCH no. 1644. A full publication of this hoard has now appeared by M. J. Price and N. M. Waggoner, Archaic Greek Silver Coinage. The 'Asyut' Hoard (London 1975). Attic coins (and, for that matter, coins of any sort — so Naster) appear for the first time in Aramaic documents of the end of the fifth century B.C. from Egypt; see A. E. Cowley, Aramaic Papyri, nos. 35 and 37; E. Kraeling, Brooklyn Museum Aramaic Papyri, no. 12. See P. Naster, *Karsha* et *Sheqel* dans les documents araméens d'Éléphantiné, RBN 116 (1970), 31—35, who argues that *karsha* and *sheqel* in the Aramaic documents from Elephantine are weights, not coins. The situation changes with the beginning of Ptolemaic rule. The Old Style Athenian tetradrachms are not found in hoards of this period and no New Style tetradrachms have to my knowledge ever been found in Egypt. For the almost total dominance of Ptolemaic issues already under Ptolemy I see G. Dattari, Monete trovate nella necropoli di Sciatbi, BSRAA 8 (1905), 101—104; cf. the Kuft hoard of 1875 now published by D. Nash, The Kuft Hoard of Alexander III Tetradrachms, NC 7 ser. 14 (1974), 14—30.

It has also increasingly become clear that a limited number of genuinely indigenous issues were struck in the pre-Ptolemaic period: e.g. the gold staters of Tachos, see E. S. G. Robinson, Greek Coins from the Pyramids, NC 6 ser. 10 (1950), 298; cf. another unique Athenian imitation with a Demotic inscription in O. Mørkholm, A Coin of Artaxerxes III, NC 7 ser. 14 (1974) 1—4 cf. another such coin in the B.M., A. F. Shore, The Demotic Inscription on a Coin of Artaxerxes, NC 7 ser. 14 (1974), 5—8.

[1246] For references to the caravan trade in Lihyanite inscriptions see W. CASKEL, Lihyan, nos. 3—4. For the appointment of a military commander to protect an important road by Dedan see ibid., no. 91.

[1247] The date of the Lihyanite inscriptions from around El-Ela is controversial. CASKEL suggests the inscriptions belong to a Lihyanite kingdom of 64—30 B.C. followed by a period of Nabataean rule and a second Lihyanite kingdom in the late first and early second centuries, see W. CASKEL, Lihyan, 39—44; followed by A. GROHMANN, Arabische Chronologie (Leiden 1966), 4. The Hellenistic date was first argued in detail by W. W. TARN, JEA 15 (1929), 17—20; rejected by F. V. WINNETT, Notes on the Lihyanite and Thamudic Inscriptions, Le Muséon 51 (1938), 307—310 and W. F. ALBRIGHT, in: J. HEMPEL and L. ROST (eds.), Von Ugarit nach Qumran, 8. CASKEL's chronology is rejected in favour of a Hellenistic date by F. ALTHEIM and R. STIEHL, Die Araber in der Alten Welt, 1.94—96.

[1248] This assumption is based primarily on the names of two Lihyanite kings, Talmai or Tulmai, indicating an imitation of the Ptolemies, so W. W. TARN, JEA 15 (1929), 19,24. See JAUSSEN and SAVIGNAC, Mission, II. no. Lih. 73 = CASKEL, Lihyan, no. 72. Hā-Nu'ās b. Tulmai; Mission, II. no. Lih. 45 = CASKEL, Lihyan, no. 74, and Mission, II. no. Lih. 54 = CASKEL, Lihyan, no. 75: Tulmai b. Hā-Nū'ās; CASKEL, Lihyan, no. 82: Tulmai (b.) Hā-Nu'ās; cf. also the name Talmon (*tlmwn*) in a Nabataean inscription from El-Ḥigr in WINNETT and REED, Ancient Records, Nab. no. 126.

[1249] Much controversy has surrounded the so-called Milesian colony on the Red Sea, Ampelone; cf. Pliny, NH VI.159: *oppidum Ampelone, colonia Milesiorum.* A pre-Ptolemaic date is surely out of the question. W. W. TARN, JEA 15 (1929), 21—22 argued for the time of Ptolemy II and placed the site at Leuce Come; accepted by F. ALTHEIM and R. STIEHL, Die Araber in der Alten Welt, 1.70. The geography of Arabia in Pliny, NH VI is in total chaos. Some mistakenly put their faith in this mess, e. g. J. PIRENNE, Le royaume sud-arabe, 126—138, 147—161 (this entire part of PIRENNE's book, with its effort to identify sources such as Uranius, is an adventure in fantasy). Other Greek cities are mentioned: NH VI. 159: *fuerunt et Graeca oppida Arethusa, Larisa, Chalcis, deleta variis bellis.* The latter name certainly suggests a seventh-century B.C. date. I doubt if any of these colonies can be accepted without further evidence.

[1250] The earliest reference to the Nabataeans is found in Diodorus XIX. 94—100 (XIX.100. 1—3 = Hieronymus of Cardia, FGrHist. no. 154. F6), which describes Antigonus Monophthalmus' unsuccessful campaign against Petra.

[1251] For λίβανος Μιναῖος see PSI VI. 628 and P. Cair. Zen. IV. 59536 (both from the third century B. C.). The trade name remained firmly established, cf. Chrest. Wilck. 273. i. 7: [μ]ύρου ἐκ Μειναίας (second or third centuries); also Periplus c. 24 (= FRISK, p. 8. 10). New evidence for the establishment of Minaean merchant colonies under their own headmen in various Arabian cities comes in an inscription from Timna', see M. A. GHUL, New Qatabāni Inscriptions — II, BSOAS 22.3 (1959), 421—423, 429—433, VAN LESSEN 9; for the commercial nature of such Minaean colonies, particularly in Dedan, see A. VAN DER BRANDEN, La chronologie de Dedan et de Lihyân, BiOr 14.1 (1957), 16. The Minaeans were active merchants and are well-attested in areas outside of their South Arabian homelands, see above nn. 1112 and 1154. A large Minaean colony also grew up on the road north at Dedan, see F. V. WINNETT, The Place of the Minaeans in the History of Pre-Islamic Arabia, BASOR 73 (1939), 5—7; cf. W. CASKEL, Lihyan, 20—21,31. See the Minaean inscriptions from in and near El-Ela, Medain-Salih, and Hereibeh in JAUSSEN and SAVIGNAC, Mission, II. pp. 236—362 (cf. Mission, II no. 6 = RES 3610 = Iscr. Min. no. 355 for the use of aromata among the Minaeans; cf. on this text A. JAMME, The so-called Thamudic Divine Name *wt* = *wtn*, BiOr 24 [1967], 287 n. 23; G. GARBINI, Iscrizioni sabee da Hakir, AION 31 [1971], 307 n. 10).
A short Minaean-Greek bilingual inscription of the second century B.C. was also found at Delos: M. CLERMONT-GANNEAU, Inscription bilingue minéo-grecque découverte à Délos,

CRAI (1908), 546—560 = RES 3570 = Iscr. Min. no. 349, for the Greek text see Inscr. Delos 2320; on this text see G. Ryckmans, Sud-arabe *mḏbht* = hébreu *mzbh* et termes apparentés, in: Festschrift W. Caskel (Leiden 1968), 254—255; and G. Garbini, Nuove iscrizioni sabee, AION 33 (1973), 34—35.

Delos in its second century B.C. period of prosperity attracted a number of Arab merchants. For example, a short Hadhramautic inscription found on Delos: Inscr. Delos 2319 = RES 3952; also a dedication by Χαυαν Θεοφίλου Ἄραψ, Inscr. Delos 2321, cf. O. Masson, Quelques noms sémitiques en transcription grecque à Délos et à Rhénée, in: Hommages Dupont-Sommer (Paris 1971), 71—72. But they were not an important element in the foreign population on the island, cf. M. Lacroix, Les étrangers à Délos pendant la période de l'indépendance, in: Mélanges G. Glotz, 2.501—525.

[1252] R. Dussaud, Numismatique des Rois de Nabatène, JA 10 ser. 3 (1904), 193—194.

[1253] Cf. above n. 1152 on Nabataean piracy. It is frequently argued that many of the Ptolemaic measures in the Red Sea and Palestine were intended to remove the Nabataeans from their role as middlemen in the incense trade, so M. Rostovtzeff, APF 4 (1907/08), 306—307 and Idem, Staatspacht, 396; W. W. Tarn, JEA 15 (1929), 9—23; so still J. Ryckmans, Le Muséon 70 (1957), 88 and F. Altheim and R. Stiehl, Die Araber in der Alten Welt, 1.72; cf. S. J. de Laet, Portorium, 308—309 n. 2, who rejects Rostovtzeff's view that a high tariff was established at Leuce Come (cf. Periplus c. 19, see below n. 1350) to drive commerce from this Arabian port into Egyptian ports.

Nabataean roads were carefully guarded and provision was made for water and shelter, but it is uncertain if this was part of a royal effort to encourage the spice trade. The road from Avdat to Sha'ar Ramon was marked by watchtowers, milestones, cisterns and stations, see Z. Meshel and Y. Tsafrir, PEQ (1974), 106, 113—114 (station at Mezad Grafon); Idem, PEQ (1975), 4—8 (milestones at Ramat Nafḥa and Makhtesh Ramon), 9—14 (stations and cisterns at Mezad Grafon, Maḥmal and Sha'ar Ramon). The station at Avdat goes back to the third century B.C., see A. Negev, Archaeology 14.2 (1961), 123—125.

[1254] Note, for example, the quantities of frankincense and myrrh as well as 500 talents of silver captured by Antigonus' general Athenaeus in 312 B.C., Diodorus XIX.95.3. The Nabataean exploitation and export of the bitumen available on the shores of the Dead Sea also dates from this period; see Diodorus II.48.6—8; XIX.98—99, noting that the asphalt is taken to Egypt for use in embalming; see P. C. Hammond, The Nabataean Bitumen Industry at the Dead Sea, BibArch 22.2 (1959), 40—48.

Although Diodorus II.48.1—5 and XIX.94.3 states that the Nabataeans were primarily nomadic this is certainly based on an early Hellenistic source since by the first century B.C. these Arabs had already established numerous agricultural settlements in the Negev and Transjordan; see in general, N. Glueck, Deities and Dolphins (New York 1965), 4—5, O. Eissfeldt, Neue Belege für nabatäische Kultgenossenschaften, MIO 15.2 (1969), 223—225 (on the cultivation of wine); for inscribed monuments connected with irrigation and inscriptions related to dam construction see A. Negev, Nabataean Inscriptions from 'Avdat (Oboda), IEJ 11 (1961), 131—134, nos. 6, 7a, 8; Idem, IEJ 13.2 (1963), 113—117, no. 10. For remains of a Nabataean water diversion project at Petra see P. J. Parr, La date du barrage du Sîq à Petra, RB 74.1 (1967), 45—49. In general on the traditional methods of Arab cultivation as described in the *al-Filâha an-nabaṭiyya* see T. Fahd, Conduite d'une exploitation agricole d'après 'l'Agriculture Nabatéenne', StIs 32 (1970), 109—128.

[1255] The dated Nabataean inscriptions from the Eastern Desert suggest that the Nabataeans did not penetrate the area until after 30 B.C.; see S. A. Cook, PSBA 26 (1904), 102—106 in Wadi Gidami; C. Clermont-Ganneau, Les Nabatéens en Égypte, RHR 80 (1919), 1—29; cf. Idem, RAO 8 (1924), 150—171 in Tell el-Shughāfīya in Wadi Tumilat; L. A. Tregenza and J. Walker, Nabataean Inscriptions from the E. Desert of Egypt, Univ. of Egypt Bull. Fac. of Arts 11.2 (1949), 151—160, pls. I—IV in Wadi um 'Anab and um Dalfa; E. Littmann (with D. Meredith), Nabataean Inscriptions from Egypt, BSOAS

15 (1953), 1—26; 16 (1954), 211—246. These inscriptions were found both along the overland routes through the Sinai and along the roads from the Nile to Berenice, Leucos Limen, and Philoteras. Very few of the graffiti bear a date. The earliest dated inscription is no. 81 from the period 48—30 B.C. and the latest is no. 46a, A.D. 266. Few state their professions, e. g. nos. 37 and 46a cameleers, no. 75 a plasterer, no. 81 a priest. No. 81, the Tell el-Shughāfiya inscription, attests to the presence of a Nabataean priest (and therefore possibly a shrine) in Egypt in the fourth year of one of the last of the Ptolemies. Men described as Arabs occur frequently in third-century Ptolemaic papyri and inscriptions. See lists in F. Heichelheim, Die auswärtige Bevölkerung im Ptolemäerreich (Leipzig 1925), 71—73, 86; Idem, Nachtrag zur Prosopographie der auswärtigen Bevölkerung im Ptolemäerreich, APF 9.1/2 (1928), 48; Idem, Nachtrag II . . ., APF 12.1/2 (1937), 54—55. Most of the men involved appear to be Arab herdsmen, some of whom bear Greek names. A still earlier Arab presence is indicated by the fifth century Qedarite shrine at Tell el-Mashkouta, I. Rabinowitz, JNES 51.1 (1956), 1—9; cf. W. Lemaine, RB 81.1 (1974), 69—71.

[1256] The explanation given above is purely speculative. Datable Nabataean remains in the Southern Sinai also appear to be no earlier than the first century of the present era; B. Rothenberg, PEQ 102 (1970), 19—21 (cf. above p. 895, n. 966 for the very considerable number of Sinai sites where Nabataean traces have been recorded). In fact major Nabataean architectural monuments such as temples and tombs scarcely go back before the beginning of the present era, see M. Lindner, Petra und das Königreich der Nabatäer (München 1974), 188—189 (only at Nessana and Avdat has excavation revealed levels of the third century B.C.); A. Negev, Nabataean Capitals in the Towns of the Negev, IEJ 24.3/4 (1974), 158—159.

[1257] See Periplus c. 30 (= Frisk, p. 10.9—11) cited above n. 1210.

[1258] At Haoulti terracotta plaques of Buddhist inspiration and Indian origin were found. Their similarity to works of the Mathura school suggest a date in the first or second centuries. See H. de Contenson, Annales d'Éthiopie 3 (1959), 103; Idem, CRAI (1959), 253, 255, who also mentions an amulet depicting a Buddha. It has been argued that the graffito of an elephant god at Musawwarat es-Safra suggests Indian influence, so I. Hofmann, Eine neue Elefantengott-Darstellung aus dem Sudan, JEA 58 (1972), 245—246, pl. XLII. Indian inspiration is also suggested for the three-headed, four-armed statue of the lion-god *Apezemak* from the Meroitic temple at Naga. So W. Vycichl, Hindu Influence in Meroitic Art? On the Three-headed Lion-god *Apezemak*, Kush 6 (1958), 174—176. This seems rather farfetched; cf. A. J. Arkell, A History of the Sudan^{2}, 166—167, who believes that Indian commerce via Axum spread such influence. Vercoutter goes still further, suggesting that cotton was an Indian introduction in Meroe, which is definitely wrong (see above n. 1029), and that the statuette of an anthropomorphic god with an elephant's head found at Wad-ban-Naga is of Indian inspiration: J. Vercoutter, Syria 39 (1962), 298—299; so first in detail A. J. Arkell, Meroe and India, in: Aspects of Archaeology 32—38 (together with much other nonsense).

[1259] Cf. A. M. Honeyman, The Hombrechtikon Plaque, Iraq 16 (1954), 26—27, pl. IV, who suggests a possible Indian influence on this small plaque from Marib(?); so also J. Pirenne, Chronique d'archéologie sud-arabe, 1955—1956, Annales d'Éthiopie 2 (1957), 45. The earliest Indian artifact to date found in Southern Arabia is a small bronze statuette found at Khor Rori, Oman; see W. F. Albright, From South Arabia, Archaeology 7.4 (1954), 254. The statuette is tentatively dated on stylistic grounds to the third century of our era; see H. Goetz, An Indian Bronze from South Arabia, Archaeology 16.3 (1963), 187—189. There is no reason to accept his suggestion that it came from the domestic shrine of an Indian spice merchant. The same author even less convincingly argues that one of the buildings at Petra is an incomplete Indian temple, see Idem, An Unfinished Early Indian Temple at Petra, Transjordan, E&W n.s. 24.3/4 (1974), 245—248. Better evidence for the presence of Indians in South Arabia comes in

Ja 931 where lines 3—4 mention individuals described as *hndyyhn* i.e. "Hindites" who may be Indians, see A. Jamme, The Al-'Uqlah Texts, 44—45.

[1260] Strabo II. 3. 4 reports that the shipwrecked Indian was rescued ὑπὸ τῶν φυλάκων τοῦ Ἀραβίου μυχοῦ. Attributed to the Gulf of Suez by M. Rostovtzeff, JEBH 4 (1931/32), 742. On the possible duties of these guards see H. Kortenbeutel, Süd- u. Osthandel, 45.

[1261] Cf. J. Filliozat, La doctrine Brahmanique à Rome au III siècle, in: Les Relations, 33—34. Two Ptolemaic graffiti are also of relevance, the first from El-Kanaïs: W. Schwarz, Die Inschriften des Wüstentempels von Redesiye, Jahrb. f. Class. Philol. 153 (1896), 166 no. 41 read Σοφωνιναός; cf. SB V.8648 with the reading Σοφωνίνδος. U. Wilcken, APF 3 (1903/06), 320 suggested Σόφων Ἰνδός. It is generally believed that an Indian is the person mentioned, so U. Wilcken, ibid.; H. Kortenbeutel, Süd- u. Osthandel, 49—50; W. Otto and H. Bengtson, ABAW N.F. 17 (1938), 195 n. 2; M. Launey, Recherches, 2.1251. Similarly the graffito Σιρωνος Ἰνδός from Abu Simbel; see SB I.4157.8; cf. new publication in A. Bernand and O. Masson, Les Inscriptions Grecques d'Abou-Simbel, REG 70 (1957), 24 no. 14 = SEG XVI.854 = SB VIII.10019.8.

[1262] The symbol ⊕ on a Ptolemaic tombstone found by Flinders Petrie was considered to be of Buddhist origin; see W. Simpson, The Buddhist Praying Wheel, JRAS (1898), 874—875 citing correspondence from Flinders Petrie.

[1263] W. W. Tarn, JEA 14 (1928), 251; Idem, Hellenistic Civilization^{3} (New York 1952), 248; also J. H. Thiel, Eudoxus of Cyzicus (Groningen 1966), 12 n. 45.

[1264] But so still J. Pirenne, in: M. Mollat (ed.), Sociétés, 102 n. 1.

[1265] E. g. P. Lond. I.131. For emendation of line 11 cf. U. Wilcken, BL I, p. 229; republished in: A. Swiderek, La propriété foncière privée dans l'Égypte de Vespasien et sa technique agricole d'après P. Lond. 131 recto (Warsaw 1960), 9—11 = SB VIII.9699. The text is an account of A.D. 78—79 which among many other local names of fields mentions a χῶμα of Ἴνδιος (i.13). In P. Oxy. II.300 (first century) a woman Ἰνδική, the wife of Longinus, writes to a near relative Thiasous, the wife of Theon, ἐλαιχρίστης at the gymnasium in Oxyrhynchus. For these persons as Indians see O. Stein, Indien in den griechischen Papyri, Indologica Pragensia 1 (1929), 35—36 and F. Heichelheim, APF 9.1/2 (1928), 50. Indian slaves are not mentioned in any papyri, although slaves from Ethiopia sometimes occur. In general see J. A. Strauss, Le pays d'origine des esclaves de l'Égypte romaine, CE 46 (1971), 363—366.

[1266] L. Robert, Villes d'Asie Mineure^{2} (Paris 1962), 70—71. Similarly two funerary monuments from near Kara Tepe in Cilicia: SEG XII. 505 mentions Μιθρατώχμης Ἰνδέους; SEG XII. 507 contains an Ἴνδης Κιλαλόου. SEG XX. 84 from Laertes in Cilicia mentions an Ἰνδου[ς] Διοδώρου; SEG XX. 92d from Amanda in Cilicia has an unknown male, the son of Ἰνδός.

[1267] T. Frank placed excessive reliance on such ethnic names in his study of the ethnic composition of the Roman populace, T. Frank, Race Mixture in the Roman Empire, AHR 21 (1917), 689—710, cf. the criticisms of M. L. Gordon, The Nationality of Slaves under the Early Roman Empire, JRS 14 (1924), 93—111 and S. Treggiari, Roman Freedmen, 6—7; more specifically on slave names (and still useful) is A. Oxé, Zur älteren Nomenklatur der Römischen Sklaven, RhM N.F. 59 (1904), 108—140. Some of Frank's conclusions are defended by L. R. Taylor, Freedmen and Freeborn in the Epitaphs of Imperial Rome, AJPh 82 (1961), 113—132 against the criticisms of F. G. Maier, Römische Bevölkerungsgeschichte und Inschriftenstatistik, Historia 2 (1954), 318—357. For this problem of identification of persons bearing ethnic names in Ptolemaic Egypt see W. Peremans, Noms de personne et nationalité dans l'Égypte ptolémaïque, Le Muséon 59 (1946), 241—252; Idem, L'identification des égyptiens et des étrangers, AncSoc 1 (1970), 25—38. Cf. on pseudoethnics F. Heichelheim, Die auswärtige Bevölkerung, 12—14. See also the legal designation frequently found in the papyri: Πέρσης τῆς ἐπιγονῆς. The meaning is much in dispute; see e. g. J. F. Oates, The Status Designation Πέρσης τῆς ἐπιγονῆς, YCS 18 (1963), 1—129. Cf. P. W. Pestman, A proposito dei documenti di Pathyris II, Πέρσης τῆς ἐπιγονῆς, Aegyptus 43 (1963), 15—53.

[1268] The confusion or equation of India with Ethiopia and hence of Indians with Ethiopians became a *topos* in both geographic literature and poetry; see T. K. Joseph, 'India', a Continuation of Egypt and Ethiopia, JIH 26 (1948), 201—207; cf. A. Perumalil, 'Citerior India', ibid., 199—200; J. André, Virgile et les Indiens, REL 27 (1949), 157—163; J. O. Thompson, History of Ancient Geography, 301—302; A. Dihle, Der fruchtbare Osten, RhM N.F. 105 (1962), 100—101 n. 6; J. Y. Nadeau, Ethiopians, CQ n.s. 20 (1970), 339—349. R. Dostálová, AAntHung 15 (1967), 447—448.
In the fourth century the name 'India' was also frequently applied to Southern Arabia; cf. J. Desanges, Annales d'Éthiopie 7 (1967), 148—154. For confusion of India with Ethiopia and Arabia in Syriac historians and lexicographers see A. Mingana, The Early Spread of Christianity to India, BJRL 10 (1926), 443—446. On use of Ethiopian and Indian ethnics as generic terms for anyone with a dark skin see F. M. Snowden, The Negro in Classical Italy, AJPh 68 (1947), 268—271, 273; Idem, Blacks in Antiquity (Cambridge, Mass. 1970), 4—5, 101. It seems less likely that such a confusion should occur in Egypt, since both the Ethiopians and their neighbours the Trogodutes are frequently mentioned in papyri and inscriptions from Egypt: e. g. OGIS 54; P. Col. Zen. I.5; Inscr. Philae I.12bis; II.128, 158.

[1269] Cf. Hesychius s. v. Ἰνδός· ὁ τὸν ἐλέφαντα ἄγων ἀπ' Αἰθιοπίας. Polybius several times refers to the Ἰνδοί who rode the Carthaginian elephants in the Punic wars (e. g. I.40.15; III.46.7; XI.1.12). As a result it has been argued that both Hannibal's elephants and *mahouts* were Indian; so A. Berthelot, Questions Hannibaliques: Les éléphants d'Hannibal au Mont-Canis, REA 38 (1936), 37—38. A study of the elephants on the reverses of Carthaginian coins indicates that Hannibal's elephants were African, with perhaps one exception, and that the *mahouts* were African negroes; see H. H. Scullard, Hannibal's Elephants, NC 6 ser. 8 (1948), 158—168; W. Gowers and H. H. Scullard, Hannibal's Elephants Again, NC 6 ser. 10 (1950), 271—283. Elephants also appear on the coins issued by the Carthaginians and their allies in Italy, see E. S. G. Robinson, Carthaginian and Other South Italian Coinages of the Second Punic War, NC 7 ser. 4 (1964), 37, 41—42, and ibid., 47—48 on Indian elephants. For reverse types struck in Spain see E. S. G. Robinson, Punic Coins of Spain and their Bearing on the Roman Republican Series, in: R. A. G. Carson and C. V. Sutherland (eds.), Essays in Roman Coinage presented to Harold Mattingly (Oxford 1956), 39—41, 43—45, 50. Thus Ἰνδός appears to be a standard Hellenistic usage for *mahout*; so already S. Gsell, Histoire ancienne de l'Afrique du Nord (Paris 1915), 2.408; F. W. Walbank, Commentary on Polybius, 1.102; cf. P. Goukowsky, Le roi Poros, son éléphant et quelques autres, BCH 96.1 (1972), 483 n. 36. This explanation probably lies behind the Ptolemaic graffiti mentioned above. Cf. Bernand, Inscr. Philae, I, pp. 310—311.

[1270] On such Cilician names see L. Robert, Noms indigènes, 98—99. Furthermore, sites like Adanda and Laertes are too remote to have attracted an international mercantile community; see description in G. E. Bean and T. B. Mitford, Sites Old and New in Rough Cilicia, AnSt 12 (1962), 194—196, 207—209. Men from these areas of Asia Minor are, however, relatively rare in Ptolemaic Egypt, see F. Heichelheim, Die auswärtige Bevölkerung, 59—62. Cf. also for Indians in Asia Minor M. Gubiand, Les caravaniers asiatiques et les riverains de l'Océan Indien vus par les coroplastes de la Smyrne romaine, Artibus Asiae 10 (1947), 324—333; 11 (1948), 123—140, who argues on the basis of an anthropological study of some of the terracotta figurines found at Smyrna (first and second centuries) that merchants from Central Asia and India visited the city. There is nothing conclusive in these rather primitive depictions of various racial types. The models, if correctly interpreted, could just as easily be slaves as merchants.

[1271] So W. Otto and H. Bengtson, Zur Geschichte des Niederganges des Ptolemäerreiches: ein Beitrag zur Regierungszeit des 8. und des 9. Ptolemäers, ABAW N.F. 17 (1938), 197—218; J. H. Thiel, Eudoxus of Cyzicus, 18—19, 48—52 (first appeared in Dutch in 1939 before T. saw the study of Otto and Bengtson); W. W. Tarn, GBI^2, 368—369; G. F. Hourani, Arab Seafaring, 24—25; R. Delbrueck, BJ 155/56 (1955/56), 46; E. W. Gray, JRS 45 (1955), 199; Idem, JRS 60 (1970), 223; A. Dihle, Innsbrucker Beiträge z. Kulturwiss. 4 (1974), 11—12.

[1272] So M. P. Charlesworth, CQ 22 (1928), 94—97; J. Filliozat, Les échanges de l'Inde et de l'Empire Romain aux premiers siècles de l'ère chrétienne, RH 201 (1949), 5; H. St. J. B. Philby, Le Muséon 73 (1960), 400 with a date of A.D. 47; J. Pirenne, Le royaume sud-arabe, 179—180; J. Thorley, G&R 16 (1969), 212; E. H. Warmington, Commerce^2, 42—47 with a date under Claudius; J. I. Miller, Spice Trade, 16, 91 (whose speculations on this subject are all second-hand).

[1273] W. Otto and H. Bengtson, ABAW N.F. 17 (1938), 197—218; J. H. Thiel, Eudoxus of Cyzicus, 18—19, 48—51. But see Onesicritus, apud Strabo XV.1.34 (describing the coastal region of the Indus Delta and explaining the presence of shoals there): τὸ μὴ πνεῖν ἀπογαίους, ἀλλ' ὑπὸ τῶν πελαγίων ἀνέμων κατέχεσθαι τούτους τοὺς τόπους τὸ πλέον. Thus Onesicritus appears to have had some knowledge of the existence of the Southwest Monsoon even if he did not use it for navigation; see L. Pearson, The Lost Histories of Alexander the Great, 104—105. See also Aristobulus, FGrHist. no. 139. F 35 (on the Punjab): τοῦ δὲ ἔαρος ἀρχομένου καὶ τοὺς ὄμβρους ἐνάρχεσθαι, καὶ ἀεὶ [καὶ] μᾶλλον λαμβάνειν ἐπίδοσιν, τοῖς δ' ἐτησίαις καὶ ἀδιαλείπτως νύκτωρ καὶ μεθ' ἡμέραν ἐκχεῖσθαι καὶ λάβρους ἕως ἐπιτολῆς 'Αρκτούρου· and again, describing the Indus Delta coastline: τὴν δὲ θάλατταν ἄπλουν εἶναι τῶν ἀνέμων ἀντιπνεόντων, ἀπογαίας δὲ μηδεμιᾶς πνοῆς ἐκδεξαμένης. But Agatharchides, who relies on third-century sources (see above n. 1182), in his description of the climate in the Gulf of Arabia gives no indication of knowing about the Monsoons: frag. 106 (= GGM I. p. 193): Τῶν δ' ἀνέμων ζέφυροι μὲν καὶ λίβες ἔτι δ' ἀργέται καὶ εὖροι πνέουσι καθάπερ καὶ παρὰ τοῖς ἄλλοις·

[1274] Strabo II.3.4 = Posidonius, FGrHist. no. 87.F28.4; an abbreviated form of the same story is given in Pliny, NH II.168.

[1275] The chronological anchors of the story are as follows: ἐλθεῖν εἰς Αἴγυπτον ἱστορεῖ κατὰ τὸν δεύτερον Εὐεργέτην; upon his return from the first voyage to India Euergetes confiscated his entire cargo (ἀφελέσθαι γὰρ αὐτὸν ἅπαντα τὸν φόρτον τὸν Εὐεργέτην); Τελευτήσαντος δ' ἐκείνου τὸν βίον, Κλεοπάτραν τὴν γυναῖκα διαδέξασθαι τὴν ἀρχήν· πάλιν οὖν καὶ ὑπὸ ταύτης πεμφθῆναι τὸν Εὔδοξον μετὰ μείζονος παρασκευῆς.; on the return voyages Eudoxus was shipwrecked and when he reached Egypt again he found that οὐκέτι τῆς Κλεοπάτρας ἡγουμένης, ἀλλὰ τοῦ παιδός. (Strabo II.3.4). The expeditions are dated to 118 B.C. and August 116 B.C. by W. Otto and H. Bengtson, ABAW N.F. 17 (1938), 208; cf. M. Laffranque, Poseidonios, Eudoxe de Cyzique et la circumnavigation de l'Afrique, Revue Philosophique 153 (1963), 207, who gives 117 B.C. as the date of the first voyage. Problems have been caused by P. Lond. inv. 2850 which is dated in the second year of the joint reign of Ptolemy VIII, Cleopatra II and Cleopatra III; cf. resolution proposed by P. W. Pestman, A Greek Testament from Pathyris, JEA 55 (1969), 137—138. Detailed discussion in D. Musti, I successori di Tolomeo Euergete II, PP 15 (1960), 432—446, esp. 439—443 on the date of Eudoxus.

[1276] Cf. Strabo II.3.4.

[1277] For example, Eudoxus found upon inquiry from the natives on the East coast where he had landed that the prow of the wrecked ship he had found belonged to those who had sailed from the west (Strabo II.3.4). Anywhere on the East African coast this would have been difficult to accomplish, Furthermore, Strabo's criticism (II.3.5) that an Indian ship could hardly have strayed by accident to the upper region of the Red Sea is very much to the point.

[1278] Pliny NH VI.100—101: *sic Alexandri classis navigavit; postea ab Syagro Arabiae promunturio Patalen favonio, quem Hippalum ibi vocant, peti certissimum videbatur, XIII XXXII p. aestimatione. secuta aetas propiorem cursum tutioremque iudicavit si ab eodem promunturio Sigerum portum Indiae peteret, diuque ita navigatum est, donec conpendia invenit mercator, lucroque India admota est; quippe omnibus annis navigatur sagittariorum cohortibus inpositis; etenim piratae maxime infestabant. Nec pigebit totum cursum ab Aegypto exponere nunc primum certa notitia patescente.* See the various discussions in E. Kornemann, Die historischen Nachrichten des Periplus maris Erythraei über Arabien, Janus 1 (1921), 56—59; H. Kortenbeutel, Süd- u. Osthandel, 10; W. Otto and H. Bengtson, ABAW N.F. 17 (1938), 206—208; J. H. Thiel, Eudoxus of Cyzicus, 44—48.

[1279] Periplus c. 57 (= Frisk, p. 18. 30 — p. 19. 1—12): Τοῦτον δὲ ὅλον τὸν εἰρημένον περίπλουν ἀπὸ Κανῆς καὶ τῆς Εὐδαίμονος Ἀραβίας οἱ μὲν ⟨πρότεροι⟩ μικροτέροις πλοίοις περικολπίζοντες ἔπλεον, πρῶτος δὲ Ἵππαλος κυβερνήτης, κατανοήσας τὴν θέσιν τῶν ἐμπορίων καὶ τὸ σχῆμα τῆς θαλάσσης, τὸν διὰ πελάγους ἐξεῦρε πλοῦν, ἀφ᾿ οὗ καὶ τοπικῶς ἐκ τοῦ ὠκεανοῦ φυσώντων, [τῶν] κατὰ καιρὸν τῶν παρ᾿ ἡμῖν, ἐτησίων ἐν τῷ Ἰνδικῷ πελάγει λιβόνοτος φαίνεται ⟨ἵππαλος⟩ προσονομάζεσθαι [ἀπὸ τῆς προσηγορίας τοῦ πρώτως ἐξευρηκότος τὸν διάπλουν]. Ἀφ᾿ οὗ μέχρι καὶ νῦν τινὲς μὲν εὐθὺς ἀπὸ Κανή, τινὲς δὲ ἀπὸ τῶν Ἀρωμάτων ἀφιέντες, οἱ μὲν εἰς Λιμυρικὴν πλέοντες ἐπὶ πλεῖον τραχηλίζοντες, οἱ δὲ εἰς Βαρύγαζαν οἵ τε εἰς Σκυθίαν οὐ πλεῖον ἢ τρεῖς ἡμέρας ἀντέχουσι καὶ τὸ λοιπὸν † παρεπιφέρον πρὸς ἴδιον δρόμον ὑψηλοὶ ἐκ τῆς χώρας διὰ τοῦ ἔξωθεν [γῆς] παραπλέουσι τοὺς προειρημένους κόλπους.

[1280] For the location of Muziris see W. H. Schoff, Proposed Identification of two South-Indian Place-Names in the Periplus, JRAS (1913), 130—131.

[1281] So Pliny NH VI.96.

[1282] See F. Jacoby, FGrHist IIIa, pp. 336—338; cf. H. Kortenbeutel, Süd- u. Osthandel, 10 who suggests that Juba interviewed merchants and travellers and thus used first-hand information.

[1283] Some scholars have attempted to date the 'Periplus' by comparing its descriptions of the sea route with that found in Pliny (above n. 1278). It could then be argued that either Pliny used or did not use the 'Periplus', and thus a date for the latter could be derived. This simplistic type of *Quellenforschung* was popular in the nineteenth century, see for example E. A. Schwanbeck, Über den Periplus des Erythräischen Meeres, RhM N.F. 7.3 (1850), 364—368. It has unfortunately survived to the present day in works on the 'Periplus' by non-classicists, e. g. J. Pirenne, in: M. Mollat (ed.), Sociétés, 105—107, 110—111.

[1284] Pliny NH VI.100; Periplus c. 57 (= Frisk, p. 19.2).

[1285] W. Otto and H. Bengtson, ABAW N.F. 17 (1938), 202—204 argue that Hippalus was the κυβερνήτης on Eudoxus' expedition: this is the term by which he is described in Periplus c. 57 (= Frisk, p. 19.2).

[1286] For the chronology of Eudoxus' voyages in the Atlantic see M. Laffranque, Revue Philosophique 153 (1963), 207—208 who suggests 103/102 for the first voyage and 100/99 for the second.

[1287] Cf. Strabo II.3.4 on Eudoxus' solicitation of king Bogus.

[1288] Cf. the scepticism of Strabo II. 3. 5: τίς δ᾿ ἡ σπάνις τῷ Εὐεργέτῃ τῶν τοιούτων καθηγεμόνων, ἤδη γνωριζομένης ὑπὸ πολλῶν τῆς ταύτῃ θαλάττης;

[1289] The thesis that the discovery of the use of the Monsoons occurred only once in Greek experience rests on the rather dangerous assumption that geographic knowledge is permanent and ubiquitous. In this connection one has only to recall that Herodotus' knowledge of the geography of Asia was more accurate on some points than that of Alexander and his generals. Cf. G. Wirth, Acta Conventus XI 'Eirene', 624.

[1290] I agree with A. Dihle, Innsbrucker Beiträge z. Kulturwiss., 4 (1974), 9—11 that the voyage of Eudoxus may simply have been the culmination of a long period of exploration and discovery. Others argue that Eudoxus was the first Greek to sail to India, so U. Wilcken, Schmollers Jahrbuch 45.1/2 (1921), 64; H. Kortenbeutel, Süd- u. Osthandel, 46—47. This is definitely wrong, see above p. 658.

[1291] SB V. 8036. 3—4: στρατηγὸς καὶ ἐπὶ τῆς / [Ἐρυθρᾶς καὶ τῆς Ἰνδικ]ῆς θαλάσσης. Published with this restoration and a suggested date of 110 or 107 B.C. by H. Henne, Sur deux stratèges d'une inscription grecque de Coptos, RPh 3 ser. 10 (1936), 318—324. The dating is by W. Otto and H. Bengtson, ABAW N.F. 17 (1938), 1—22; so also M. Rostovtzeff, SEHHW 2.928, 3.1556; cf. H. Bengtson, Die Strategie in der Hellenistischen Zeit, 3 (Munich 1952), 101, 229.

[1292] The creation of the Ptolemaic *epistrategia* of the Thebaid was initially an extraordinary measure probably connected with the suppression of native revolts. The first attested *epistrategus* is Hippalus in SB V.8876 (176/75 B.C.), see T. C. Skeat, The Epistrategus Hippalos, APF 12 (1937), 40—43, cf. H. Henne, Sur la titulature aulique des stratèges de nomes à l'époque ptolémaïque, REA 42 (1940), 178. More generally on the office and its occupants before Callimachus see E. Van't Dack, Recherches sur l'administration du nome dans la Thébaïde au temps des Lagides, Aegyptus 29 (1949), 14—33, 43—44 and T. Reekmans and E. Van't Dack, RIDA 5 (1950), 420—421, cf. E. Van't Dack, Notes concernant l'épistratégie ptolémaïque, Aegyptus 32 (1952), 437—450; for the view that the expansion of the titulature of the Theban *epistrategi* may reflect no real increase in functions see M. Vandoni, Gli epistrategi nell'Egitto greco-romano, 5—6 and L. Mooren, Notes concernant quelques stratèges ptolémaïques, AncSoc 1 (1970), 17—24. Among none of the preserved titles is there any hint of a supervision over Red Sea shipping before Callimachus. But OGIS 132 (130 B.C.) has been thought to contain a clue: the text records the dedication to Pan of Σωτήριχος Ἰκαδίωνος Γορτύνιος τῶ[ν] ἀρχισωματοφυλάκων ὁ ἀπεσταλμένος ὑπὸ Πάωτος τοῦ συγγενοῦς κα[ὶ] στρατηγοῦ τῆς Θηβαΐδος ἐπὶ τὴν συνα[γω]γὴν τῆς πολυτ[ε]λοῦς λιθείας καὶ ἐπὶ τῶν πλῶν καὶ παρεξόμενος τὴν ἀσφάλειαν το[ῖς] κατακομίζουσι ἀπὸ τοῦ κατὰ Κόπτον ὄρου[ς] τὰ λιβανωτικὰ φορτία καὶ τἆλλα ξένια. . . . For the use of ὄρος to designate the upland region above the floor of the Nile Valley see H. Cadell and R. Rémondon, Sens et emplois de τὸ ὄρος dans les documents papyrologiques, REG 80 (1967), 340—346; see also the usage of καταβῶ in an ostracon from the Eastern Desert, cf. D. Meredith, CE 31 (1956), 361 (from the El-Heiṭa station). The phrase ἐπὶ τῶν πλῶν is variously interpreted: K. Fitzler, Steinbrüche und Bergwerke, 50 suggests it refers to transport vessels for precious stones on the Nile (for πλοῖα, λιθηγοὶ see M. Merzagora, Aegyptus 10 [1929], 118—119). Others see it as a reference to a squadron of warships on the Red Sea, so M. Rostovtzeff, APF 4 (1907/08), 305; Idem, SEHHW, 2.924; H. Kortenbeutel, Süd- u. Osthandel, 44—45; E. Leider, Alexandreia, 53; W. Otto and H. Bengtson, ABAW N.F. 17 (1938), 214—215 (a few warships only); or as an allusion to merchant ships on the Red Sea, so U. Wilcken, Grundzüge 1.264; Idem, ZÄS 60 (1925), 101. (The usual Ptolemaic term for warships is ναῦς rather than πλοῖον, see M. Merzagora, Aegyptus 10 [1929], 110—114, cf. W. Kunkel, APF 8 [1927], 196—199.) Also on this text see M. Rostovtzeff, MDAI(R) 12 (1897), 80 n. 4.

[1293] For texts mentioning Callimachus see SB I.3926 = C. Ord. Ptol. 67; OGIS 186 = SB V.8398 = SEG XXIV.1225 = Bernand, Inscr. Philae I.52; SB I.4084 = Inscr. Philae I.53; OGIS 190 = SB V.8404 = Inscr. Philae I.56; OGIS 194 = SB V.8334 = SEG XXIV.1217. Also SB I.2264 in which the name Callimachus is restored on the basis of the titles, so W. Schubart, Spuren politischer Autonomie in Ägypten unter den Ptolemäern, Klio 10 (1910), 54—55 n. 2 and J. Bingen, Les épistratèges de Thébaide sous les derniers Ptolémées, CE 45 (1970), 373. The above text was dated to the first century

B.C. by Schubart (op. cit., 55). Although there is no clue in the text, the third year mentioned in the inscription is usually attributed to the reign of Ptolemy XII Auletes, hence 78 B.C., so W. Otto and H. Bengtson, ABAW N.F. 17 (1938), 16—17; R. Hutmacher, Das Ehrendekret für den Strategen Kallimachos (Meisenheim/G. 1965), 8 n. 1; A. Bernand, Inscr. Philae I, p. 308; L. Mooren, Notes concernant quelques stratèges ptolémaïques, AncSoc 1 (1970), 17. The date could just as well be the third year of Cleopatra VII, hence 50/49 B.C., so J. Bingen, CE 45 (1970), 373—374. Similarly SB I.3926 = C. Ord. Ptol. 67 of the year 6, attributed to the reign of Ptolemy XII Auletes, i. e. 75 B.C. (so A. Bernand, Inscr. Philae I, p. 308). Since year 6 can just as easily refer to Cleopatra VII, J. Bingen, CE 45 (1970), 375 suggests 46 B.C.. On the earlier chronology these nine texts fall into a period of 33 to 39 years, a very unusual term of office. This led to the suggestion that the documents refer to a father and son of the same name, the first *epistrategus* 78—75 B.C. and the second 62—44/39 B.C., so R. Hutmacher, Ehrendekret, 11—13 („*eine Art von Lokaldynastie*"), or even three generations of the same name, so L. Mooren, AncSoc 1 (1970), 17—24. Further difficulty was caused by the publication of a previously unedited text as Inscr. Philae I.44: the *proscynema* of ῾Ηφαίσ[τ]ου / τοῦ σ[υ]γγενοῦς / κα[ὶ ἐπισ]τ[ρ]ατήγου / καὶ διέ[πο]ν̣[τος τὰ] / κατὰ [τ]ῆ̣ν δ[ι]οίκ[ησιν] which cannot fall after Ptolemy XII Auletes, cf. A. Bernand, Inscr. Philae, I, p. 284. (Cf. on the chronology of the *dioecetes* Hephaistus ὁ πρὸς τῷ ἰδίῳ λόγῳ P. R. Swarney, The Ptolemaic and Roman Idios Logos [Toronto 1970], 20—23, who without benefit of the Philae inscription suggests a date of 63/62 to 52/61 B.C. for his tenure as *dioecetes*); cf. on Hephaistus, J. Bingen, Un épistratège ptolémaïque (Inscr. Philae 44), CE 44 (1969), 334—335. Bingen's revised chronology makes it possible to assign all the inscriptions to the same Callimachus who held office 62—44/39 B.C., so J. Bingen, CE 45 (1970), 377—378.

[1294] Otto and Bengtson dated SB V.8036 to 110/109 B.C., since they believed that the other alternative, 74/73 B.C., was excluded by the appearance of Callimachus, who bore titles in texts dated to 78 B.C. (SB I.2264) and 75 B.C. (SB I.3926). The possible redating of both these texts to 49 and 46 B.C. proposed by Bingen (see above) leaves 74/73 B.C. free for SB V.8036. The argument of Otto and Bengtson had already been weakened by W. Peremans and E. Van't Dack, Prosopographica, Studia Hellenistica 9 (Amsterdam 1953), 17—18, who suggested that Apollodorus' brother in SB V.8036 could have held the post of ἐπὶ τῆς ᾿Ερυθρᾶς καὶ ᾿Ινδικῆς θαλάσσης as a subordinate to Callimachus. On the basis of the aulic title borne by the two brothers in SB V.8036 Mooren prefers 74/73 B.C. for the first reference to a στρατηγὸς ἐπὶ τῆς ᾿Ερυθρᾶς καὶ ᾿Ινδικῆς θαλάσσης. See L. Mooren, The Date of SB V.8036 and the Development of the Ptolemaic Maritime Trade with India, AncSoc 3 (1972), 127—133. Mooren argues that his redating does not affect the conclusion of Otto and Bengtson about Eudoxus' voyages to India, but that regular voyages by use of the Monsoon were begun only by Hippalus c. 100 B.C..

[1295] The titles of Callimachus vary: OGIS 186 = SB V. 8398 = Inscr. Philae I. 52 = SEG XXIV. 1125: ὁ συγγενὴς καὶ ἐπ̣ι̣/στράτηγος καὶ στρα/τηγὸς τῆς ᾿Ινδικῆς / καὶ ᾿Ερυθρᾶς θαλάσης; SB 4084 = Inscr. Philae I. 53: ὁ σ̣υγγενὴς κ̣α̣ὶ στρ̣α̣τηγὸς / [κα]ὶ ἐ̣π̣ι̣σ̣[τ]ράτ[ηγο]ς̣ [κ]αὶ Θηβά[ρχη]ς [κ]αὶ / [ἐ̣π]ὶ τῆς [᾿Ερυ]θ̣ρ̣[ᾶς καὶ ᾿Ινδικῆς θαλάσ]σ[ης]; OGIS 190 = SB V. 8404 = Inscr. Philae I. 56: a *proscynema* on behalf of Callimachus τοῦ συγγενοῦς κ̣αὶ / στρατηγοῦ καὶ ἐπιστρ̣ατήγου / κ̣αὶ Θηβάρχου τῆς Θη[β]αίδος / [καὶ] ἐπὶ τῆς ᾿Ινδικ[ῆς κ]αὶ ᾿Ερυθρᾶς / [θαλ]άσσης; SB I. 2264: ὁ συγγε[νὴς καὶ στρατ]ηγὸς κ[αὶ ἐπιστράτηγ]ος τῆς Θ[ηβαΐδος καὶ ἐ]πὶ τῆς ᾿Ερ[υθρᾶς καὶ ᾿Ινδ]ικῆς θαλά[σσης καὶ ἀρ]χιπρύτανις [καὶ γυμν]ασίαρχος. The geographic extent of Callimachus' authority is not clear from the texts. For the origin and meaning of Erythraean Sea see the thorough review of older theories given in D. Woelk, Agatharchides, 90—96, to which add W. Spiegelberg, Die ägyptischen Namen für das Rote Meer, ZÄS 66 (1930), 37—39; cf. OGIS 233. 105—107: Σελευκεῦσιν τοῖς / πρὸς (τ)ῆι ᾿Ερυθρᾶι / θαλάσσηι where the reference is definitely to a city on the Persian Gulf. So also Arrian, Ind. 40, 43; Strabo XVI. 3. 1. See in general on this confusion

W. H. Schoff, The Name of the Erythraean Sea, JAOS 33 (1913), 251—254 and also more recently the controversy over the meaning of *rubrum mare* in Tacitus, Ann. II. 61.

[1296] Various dates have been proposed, e. g. W. W. Tarn, GBI^2, 133—134, 520: 166/160 to c. 141 B.C.; M. Bussagli, E&W n.s. 7.3 (1956), 239: d. 150/145 B.C.; A. M. Simonetta, E&W n.s. 9 (1959), 162: c. 130—110 B.C.; A. K. Narain, The Indo-Greeks, 76—77: 155—130 B.C.

[1297] Apollodorus of Artemita wrote of Menander: οὐ μόνον δὲ τὴν Παταληνὴν κατέσχον, ἀλλὰ καὶ τῆς ἄλλης παραλίας τήν τε Σαραόστου καλουμένην καὶ τὴν Σιγέρδιδος βασιλείαν· FGrHist. no. 779. F. 7. A. Dihle, Innsbrucker Beiträge z. Kulturwiss. 4 (1974), 9 suggests that ἡ ἄλλη παραλία refers to the coast south and east of the mouth of the Indus. See also A. M. Simonetta, E & W n. s. 9 (1958), 162; B. N. Mukherjee, An Agrippan Source, 38—40 n. 40.

[1298] At Karle on the road up the Ghats from Kalyāna to Poona seventeen inscribed pillars have been found; of these six were given by inhabitants of Dhenukākaṭa who are described as *Yavānas*; see E. Senart, The Inscriptions in the Caves at Kārlē, EpInd 7 (1902/03), 47—74 and M. S. Vats, Unpublished Votive Inscriptions in the Chaitya Cave at Kārlē, EpInd 18 (1925/26), 325—329. For possible identification of Dhenukākaṭa with Ptolemy's Dounga see E. H. Johnston, Two Notes on Ptolemy's Geography of India, JRAS (1941), 208—213. Also in the cave inscriptions at Nasik see E. Senart, The Inscriptions in the Caves at Nasik, EpInd 8 (1905/06), 58—96.

[1299] So A. M. Simonetta, E&W n. s. 9 (1958), 162, and most recently and in greatest detail A. Dihle, Innsbrucker Beiträge z. Kulturwiss. 4 (1974), 8—12. A critical but overly speculative discussion of these inscriptions may be found in W. W. Tarn, GBI^2, 254—258.

A city, *Alasanda*, appears several times, once as a sea-port, in the 'Milinda-panha' and this is taken to be a reference to Alexandria in Egypt; so S. Levi, IHQ 12 (1936), 126. The suggestion is based on the mention of Milinda's birthplace as being by the sea in the Chinese recension. The additional description in the Chinese text is not found in the Pali recension and suggests that the identification is unlikely. Two other passages which mention *Alasanda* are also understood as references to Alexandria in Egypt, but cf. W. W. Tarn, GBI^2, 421—422, who notes that the reference is to a city in Northern India.

[1300] Strabo in the context of a discussion of the revenues yielded by Egypt notes (XVII. 1. 13): πρότερον μέν γε οὐδ' εἴκοσι πλοῖα ἐθάρρει τὸν 'Αράβιον κόλπον διαπερᾶν, ὥστε ἔξω τῶν στενῶν ὑπερκύπτειν, νῦν δὲ καὶ στόλοι μεγάλοι στέλλονται μέχρι τῆς 'Ινδικῆς καὶ τῶν ἄκρων τῶν Αἰθιοπικῶν, ἐξ ὧν ὁ πολυτιμότατος κομίζεται φόρτος εἰς τὴν Αἴγυπτον, κἀντεῦθεν πάλιν εἰς τοὺς ἄλλους ἐκπέμπεται τόπους; cf. II. 5. 12: ἑκατὸν καὶ εἴκοσι νῆες πλέοιεν ἐκ Μυὸς ὅρμου πρὸς τὴν 'Ινδικήν, πρότερον ἐπὶ τῶν Πτολεμαϊκῶν βασιλέων ὀλίγων παντάπασι θαρρούντων πλεῖν καὶ τὸν 'Ινδικὸν ἐμπορεύεσθαι φόρτον.

[1301] So M. P. Charlesworth, CQ 22 (1928), 95.

[1302] There are two interpretations of this passage: (1) that the whole period of the Ptolemies is referred to; so, for example, C. Préaux, CE 27 (1952), 274; (2) that in the Ptolemaic period 20 ships made the voyage each year; so E. Kornemann, Janus 1 (1921), 96, n. 1; H. Kortenbeutel, Süd- u. Osthandel, 50. It was argued by Kornemann that 'Ινδική in this passage refers only to the Indian Ocean and not to the country, Janus 1 (1921), 70. As U. Wilcken correctly pointed out, this is disproved by the phrase ἐξ ὧν: Schmollers Jahrbuch 45.1/2 (1921/, 105, n. 2. The statement by Schoff that only one ship per year was permitted beyond Bab el-Mandeb is totally erroneous; W. H. Schoff, Early Communication Between China and the Mediterranean (Philadelphia 1921), 8.

[1303] See evidence above pp. 657—661.

[1304] The reverse is usually assumed, i. e. that the great increase in trade under Augustus came about as the direct result of the discovery of the use of the Monsoons at this time; so J. Filliozat, RH 201 (1949), 5; J. Schwartz, BSRAA 40 (1953), 64; Idem, Annales (ESC) (1960), 24—25.

The corollary of this is the equally common assumption that the discovery of the Monsoons by men in the West resulted in the crippling of Arab commerce from Roman competition; so W. H. Schoff, The Periplus, 5—6; P. K. Hitti, History of the Arabs^9, 58—60. The fallacious assumption which lies behind this view is that the quantity of Indian Ocean commerce was fixed and that any increase in Roman trade meant a concomitant reduction in Arab commerce. A thorough rebuttal of the old view of Schoff and others may be found in G. F. Hourani, Did Roman Commercial Competition Ruin South Arabia ?, JNES 11 (1952), 291—295. Hourani argues that the ruin of South Arabia occurred concomitantly with the collapse of the market in luxury goods in the economic crisis of the third century in the Mediterranean world. Cf. H. v. Wissmann, Saeculum 4.1 (1953), 106—109, who attributes the collapse of the kingdoms of Southern Arabia to increased feudalization and warfare and the resulting neglect of the vital irrigation systems in the fourth and fifth centuries.

For the theory of technological development enunciated in the text see the enlightened comments of M. Bloch, Technical Change as a Problem of Collective Psychology, Journ. of Normal and Pathological Psychology (1948), 104—115 = Idem, Selected Papers: Land and Work in Medieval Europe (New York 1967), 124—135, and L. White, The Act of Invention: Causes, Contests, Continuities and Consequences, T&C 3 (1962), 496—499. This view is the opposite of that exhaustively propounded by Karl Marx in 'Das Kapital' and followed (usually unknowingly) by many modern economists, e. g. W. A. Lewis, The Theory of Economic Growth (London 1955), 1; N. J. Smelser, Mechanisms of Change and Adjustment of Changes, in: W. E. Moore and B. F. Hoselitz (eds.), The Impact of Industry (Paris 1963), 30.

[1305] The evidence is assembled by M. Rostovtzeff, SEHRE^2, 1.48—50 with notes.

[1306] Cf. M. Rostovtzeff, SEHHW 2.876—878; 3.1542—1543, n. 157.

[1307] For a time at least the successes of the Egyptian rebels were considerable and for a total of 19 years (205/204—187/186) two Egyptian kings ruled Upper Egypt and defied the authority of the Ptolemaic government in Alexandria. The Greek and Demotic texts from this period are studied by K. Sethe, Die historische Bedeutung des 2. Phila-Dekrets aus der Zeit des Ptolemais Epiphanes, ZÄS 53 (1912), 35—49; C. Préaux, Equisse d'une histoire des révolutions égyptiennes sous les Lagides, CE 11 (1936), 522—552; M. Alliot, La Thebaïde en lutte contre les rois d'Alexandrie sous Philopater et Epiphane, 216—184, RBPh 29 (1951), 421—443; P. W. Pestman, Harmachis et Anchmachis, deux rois indigènes du temps des Ptolémées, CE 40 (1965), 157—170. A hieroglyphic inscription from the island of Sethel which mentions a famine has also been attributed to 188/187 B.C.; see P. Barquet, La stèle de la famine à Séthel, BEIFAO 24 (1953), 1—44. Two porcelain coins found by Maspero in Upper Egypt have been attributed to this revolt; cf. J. N. Svoronos, Τὰ Νομίσματα τοῦ Κράτους τῶν Πτολεμαίων (Athens 1904), II. nos. 1175—1176. A further such coin was excavated from Kom el-Ahmar, see 'Abd El-Mohsen El-Khashab, Ptolemaic and Roman Baths of Kom El-Ahmar, ASAE Suppl. 10 (Cairo 1949), 88—89. A further brief revolt in the Thebaid c. 165 is mentioned by Diodorus XXXI.17b: κίνησις . . . κατὰ τὴν Θηβαίδα (centred at Panopolis), cf. the attribution of the ταραχὴ τῶν Αἰγυπτίων mentioned in P. Jena inv. 2639 = SB VIII.9681.9 to this uprising, see F. Uebel, ΤΑΡΑΧΗ ΤΩΝ ΑΙΓΥΠΤΙΩΝ, APF 17.2 (1962), 158—161. Unrest continued in the Thebaid throughout the late Ptolemaic period. A Demotic papyrus from Berlin (inv. 13608) mentions a rebellion in Pathyris which is attributed to 88 B.C.; so W. Spiegelberg, Eine neue Erwähnung eines Aufstandes in Oberägypten in der Ptolemäerzeit, ZÄS 65 (1930), 53—57.

[1308] See W. Giesecke, Das Ptolemäergeld (Leipzig/Berlin 1930), 56—57. For the effects of inflation see T. Reekmans, Economic and Social Repercussions of the Ptolemaic Copper Inflation, CE 24 (1949), 324—342.

[1309] M. Rostovtzeff, SEHHW 2.906—910.

[1310] In SB III.7169.10—11 the nationality of only two of the five contracting parties can be read: Σ̣ . . . χ̣ωι Λ[υ]σιμάχου [Λακε]δαιμονίωι and Τρ . . . ωι Τρε̣ . . [. . Μεσ]σαλιώτηι. For the suggestion that these are ναύκληροι see U. Wilcken, ZÄS 60 (1925), 92—93. On the various legal and economic problems raised by this document see P. M. Meyer, ZSS 46 (1926), 330; E. Ziebarth, Beiträge zur Geschichte des Seeraubs und Seehandels im alten Griechenland (Hamburg 1929), 45—55, 126—127; H. Schaal, Vom Tauschhandel zum Welthandel (Leipzig 1931), 140—141; R. Taubenschlag, ZSS 52 (1932), 74; H. Kortenbeutel, Süd- u. Osthandel, 44; C. Préaux, L'économie royale, 296, 361, 364; L. Robert, Études épigraphiques et philologiques, 206—208; R. Taubenschlag, The Law of Greco-Roman Egypt^2, 316, 392; R. Bogaert, Banquiers, courtiers et prêts maritimes à Athènes et à Alexandrie, CE 40 (1965), 146—154; A. Wilhelm, Papyrus Tebtunis 33, JRS 27 (1937), 148—150; cf. H. Hauben, ZPE 8.3 (1971), 267—268 who points out that if Wilcken's description of the men as ναύκληροι is, in fact, correct (it is not in the text) then the term would be in conformity with Classical Greek, not Ptolemaic, usage.

[1311] SB III. 7169. 17: Θ]εσσαλονικεὺς ἡγεμὼν ἔξω τάξεων; 18: . . .]του 'Ελεάτης; 19: Κίντος . . . . νιος Μεσσαλιώτηι; 20: Δημήτριος 'Απολλωνίου Καρ[χη]δόνιος; 21: Κίντος Κιντο[. . .] . [. . . . . cf. U. Wilcken, ZÄS 60 (1925), 96—97. For the description of the Carthaginian [τῶν τὴν ἔξω(?) θάλ]ασσαν πλοιζομένων, cf. Διογένης τινά . . . τῶν εἰς τὴν 'Ινδικὴν πλεόντων (Ptol. Geog. I. 9. 1) and Θεόφιλος τινά τῶν εἰς τὴν 'Αζανίαν πλεόντων (ibid.) see also P. Jouguet, BIFAO 31 (1931), 25. The phrase διὰ Γναίου (1.12) is understood by Wilcken, ZÄS 60 (1925), 93, to refer to the banker through whom the loans were made. So also P. M. Meyer, ZSS 46 (1926), 330; E. Ziebarth, Beiträge zur Geschichte des Seeraubs, 54; M. Rostovtzeff, JEBH 4 (1931/32), 256; P. Jouguet, Dédicace grecque de Médamoud, BIFAO 31 (1931), 22: *«peut-etre un banquier»*; cf. F. Heichelheim, Zu Pap. Berol. 5883 u. 5853, Aegyptus 13 (1933), 188—191, who suggests that Gnaeus here may be compared with Cato's freedman Quintio (above p. 862, n. 886); cf. R. Bogaert, CE 40 (1965), 152—154, who suggests a Roman *negotiator.* The name Γναῖος suggests but does not prove Roman or southern Italian origins; cf. W. Schulze, Zur Geschichte lateinischer Eigennamen (Göttingen 1964; repr. Berlin 1966), 508, who points out that by the second century the name is also borne by Greeks. However, Callimachus still regards it as typically Roman; see: Aetia IV frag. 107 (Pfeiffer). The presence of Roman (or Italian) merchants in Alexandria in the late second century has frequently been argued on the basis of Inscr. Délos 1699 = ILLRP 343. The Greek text is usually restored: [Γάιον Μάριον πρεσβευ]τὴν οἱ ἐν 'Αλεξανδρείαι [παρα/γενόμενοι 'Ιταλικ]οὶ ἀρετῆς καὶ εὐεργεσίας [ἕνεκα]. The Latin text provides little help: *[C. Marium C. f. lega]tum Alexandreae Italicei quei fuere / [virtut]is beneficique ergo.* The text is widely cited as evidence for the strength of the Roman merchant community in Alexandria and its political influence; see E. Leider, Alexandreia, 35; M. Rostovtzeff, SEHHW 2.921; A. Passerini, Epigrafia Mariana, Athenaeum 17 (1939), 73; E. Gabba, Le origini della guerra sociale e la vita politica romana dopo l' 89 B.C., Athenaeum 32 (1954), 75—76; J. van Ooteghem, Caius Marius (Namur 1964), 256. But Mommsen's reading of *TVM* in line 1 was already corrected to *VM* from a squeeze by E. Loewy, Inschriften Griechischer Bildhauer (Leipzig 1885), p. 203, no. 290. The photograph of the Latin text in A. Degrassi, Imagines (Berlin 1966), no. 117 reveals that the stone has only *VM* in line 1; cf. the critical remarks of E. Badian, Review of A. Degrassi, Imagines . . ., JRS 58 (1968), 244, who points out that *patronum* could easily be restored and that the restoration of Marius' name (and hence the date of the text) is pure supposition. Fortunately the activities of the sculptor Agasias, the son of Menophilus of Ephesus, who is responsible for the monument, can be dated c. 106—88 B.C.; cf. E. Loewy, IGB. nos. 287, 288, 289. For the remains of the monument that stood over ILLRP 343 see C. Picard, Le guerrier blessé de l'Agora des Italiens à Délos, BCH 56 (1932), 491—530, pls. XXIV—XXVI. Also for the connections between the Italian business community at Delos and Alexandria see OGIS 135 = Inscr. Délos 1526: 'Ρωμαίων οἱ εὐεργετηθέντες ναύκληροι / καὶ ἔμποροι ἐν τῆι γενομένῃ καταλή/ψει 'Αλεξανδρείας ὑπὸ βασιλέως / Πτολεμαίου θεοῦ Εὐεργέτου / Λόχον Καλλιμήδου, τὸν συγγενῆ βασι/λέως Πτολεμαίου καὶ βασιλίσσης / Κλεοπάτρας, ἀρετῆς ἕνεκεν καὶ / εὐεργεσίας τῆς εἰς ἑαυτοὺς / 'Απόλλωνι (127 B. C.); see also OGIS 133 in which a Ptolemaic official Polemarchus is honoured at Delos by Lucius and Gaius Pedius; more remotely OGIS 140 = Inscr. Délos 1528.

[1312] The Carthaginian Δημήτριος 'Απολλωνίου is described as [τῶν τὴν ἔξω(?) θάλ]ασσαν πλοιζομένων which Wilcken (ZÄS 60 [1925], 97—98) believes may indicate that he belonged to a permanent body of merchants who carried on trade in the Red Sea.

[1313] For the damage done by the international and civil wars and piracy of the first century B.C. to the economy of the entire Eastern Mediterranean see M. Rostovtzeff, SEHHW 2.1242—1245; T. Reekmans, CE 24 (1949), 328—329, 332—333.

[1314] Pliny, NH VI.84—85; see also above p. 644.

[1315] Several scholars have suggested that the embassy occurred before the time of Claudius; so, for example, R. E. M. Wheeler, Rome Beyond the Imperial Frontiers, 155—156. Cf. also the view of E. Peiris, Greek and Roman Contacts with Ceylon, CHJ 10 (1960/61), 18 that a commentary on the 'Mahavamsa' of c. A.D. 670 states that Bhatikabhaya, king of Anuradhapura (traditional date 22 B.C.—A.D. 7) sent a present of a coral net to *Romanukha* across the sea.

[1316] Pliny, NH VI.85—91; especially VI.85 for the impression left by Roman *denarii* on the Ceylonese king: *mirum in modum in auditis iustitiam ille suspexit, quod paris pondere denarii essent in captiva pecunia, cum diversae imagines indicarent a pluribus factos.* Cf. A. Dihle, Umstrittene Daten, 27 n. 24.

[1317] The picture of Pliny questioning the ambassadors from Ceylon and thus obtaining first-hand information can be rejected. Certain details betray the story for what it is, a sailor's yarn. See, for example, NH VI.87: *sed maxime mirum iis erat umbras suas in nostrum caelum cadere, non in suum, solemque ab laeva oriri et in dextram occidere potius quam e diverso.* The suggestion is that Ceylon is south of the equator, an obvious falsehood, but the source of the tradition is known; so Herodotus first (IV.41.4) on the voyage of the Phoenicians around Africa. The same details are found in Nearchus' account of his voyage (Arrian, Ind. 25. 4—6): Παραπλωόντων δὲ τὴν 'Ινδῶν γῆν (τὸ ἐντεῦθεν γὰρ οὐκέτι 'Ινδοί εἰσι) λέγει Νέαρχος ὅτι αἱ σκιαὶ αὐτοῖσιν οὐ ταὐτὸ ἐποίεον· ἀλλὰ ὅκου μὲν ἐπὶ πολλὸν τοῦ πόντου ὡς πρὸς μεσημβρίην προχωρήσειαν, αἵδε καὶ αὗται αἱ σκιαὶ πρὸς μεσημβρίην τετραμμέναι ἐφαίνοντο, ὁκότε δὲ τὸ μέσον τῆς ἡμέρης ἐπέχοι ὁ ἥλιος, ἤδη δὲ καὶ ἔρημα σκιῆς πάντα ὤφθη αὐτοῖσι . . . For Nearchus' conscious imitation of Herodotus see L. Pearson, The Lost Histories of Alexander the Great, 112—149. See also Onesicritus, FGrHist. no. 134. F 10 and 11; Baeton, FGrHist. no. 119. F 4, and Megasthenes, FGrHist. no. 715. F 7b.

[1318] For Annius Plocamus see above p. 644.

[1319] It is cited as an important piece of evidence by J. I. Miller, Spice Trade, 15—16; E. H. Warmington, Commerce², 46—47. The consistent desire by scholars working on Oriental commerce to credit every piece of information Pliny retails has been the most continuous source of error in this field of endeavour.

[1320] For the problems of archaeology on the Red Sea shores see above n. 1207.

[1321] W. W. Tarn, GBI², 370. For a silver coin of Ptolemy Soter purchased in the bazaar at Bangalore (and thus of no significance) see E. Hultzsch, Zum Papyros 413 aus Oxyrhynchos, Hermes 39 (1904), 310. The Colombo museum contains a bronze issue of Leucas in Acarnia and another of Seleucus IV; H. W. Codrington, Ceylon Coins and Currency, 49. One further coin should perhaps be mentioned. A photograph of a gold stater of Lysimachus purchased in India has recently come into my possession. The coin when sold was described as a local find but coins bought in a bazaar are of no historical value unless they conform to the pattern of circulation produced by excavation. In fact such staters and their imitations circulated extensively for two centuries in the Balkans and the Pontic cities; see in general G. P. Bordea, Le trésor de Mărăşeşti. Les statères en or des cités du Pont Gauche et le problème des relations avec le monde grec et les populations locales aux IVe—Ier siècles av. n.è., Dacia 18 (1974), 103—125; for subsequent finds see T. Gerasimov, Un trésor de monnaies antiques du sud de la Dobroudja, SCN 6 (1975), 25—26, 4 staters from Bulgaria; cf. also A. G. Sal'nikov, Zolotye monety Lisimakha iz sobraniia Odesskogo Arkheolgicheskogo muzeia, SA (1960), 4.171—173, excavations at Olbia and Tyra. Such coins penetrated as far east as Georgia; for three staters of Lysimachus found there see G. F. Dundua, Sak'art'veloshi gavrp'elekhuli aleksandre makedonelisa da lisimak'es sazalit' motchsili monetekh, Matsne (1973), 1. 51—65 (Rus. sum.).

[1322] For the suggestion that Ptolemaic trade with India was conducted as a '*Tauschhandel*' see U. Wilcken, Schmollers Jahrbuch 45.1/2 (1921), 104—105; W. Otto and H. Bengtson, ABAW N.F. 17 (1938), 195, n. 3; cf. E. W. Gray, Review of M. Wheeler, Rome Beyond the Imperial Frontiers, . . . JRS 45 (1955), 199. That commerce need not be reflected in the coin finds is indicated by the evidence from East Africa. Ptolemaic activity in East Africa is well documented but no historically useful finds of Ptolemaic coins have been made there. A fortress near Port Dunford has yielded 17 Ptolemaic copper coins (Ptolemy III to Ptolemy V) together with late Roman and Mamluke pieces; see H. Mattingly, Coins from a Site-Find in British East Africa, NC 5 ser. 12 (1932), 175. The gold coin of Ptolemy Soter published by F. Stuhlmann, Beiträge zur Kulturgeschichte von Ostafrika (Berlin 1909), 843 was purchased in the bazaar at Dar-es-Salaam. Baxter vaguely mentions the discovery of 'Greek' coins along the East African coast but gives no examples: H. C. Baxter, Pangani, The Trade Centre of Ancient History, TNR 17 (1944), 16. The assumptions made about such coin finds in G. A. Wainwright, Early Foreign Trade in East Africa, Man (1947), art. no. 161.144—147 are totally false and erroneous. See the negative conclusions reached about the historical usefulness of any of these finds by G. S. P. Freeman-Grenville, Coinage in East Africa before Portuguese Times, NC 6 ser. 17 (1957), 152—153; Idem, East African Coin Finds and their Historical Significance, JAH 1.1 (1960), 32—34, and H. N. Chittick, Observations on Pre-Portuguese Accounts of the East African Coast, in: M. Mollat (ed.), Sociétés, 130—131.

[1323] For fineness of Ptolemaic tetradrachms of the second and first centuries B.C. see the results of analyses in W. Giesecke, Das Ptolemäergeld, 93; E. R. Caley, Chemical Composition of Parthian Coins (New York 1955), 36—37. For the effect of debasement on the circulation of Ptolemaic silver in the Mediterranean see J. G. Milne, Ptolemaic Coinage in Egypt, JEA 15 (1929), 150—153; Idem, Roman Coinage in Egypt in relation to the native economy, Aegyptus 32 (1952), 144; A. Segrè, The Ptolemaic Copper Inflation ca. 230—140 B.C., AJPh 63 (1942), 189—192; F. Heichelheim, Zu Pap. Michigan III.173 and Hesperia V (1936), 419ff., Nr. 15, Hesperia 17 (1937), 63—64.

[1324] See below pp. 1009—1012.

[1325] See above pp. 962—963.

[1326] See the Basra hoard containing 227 tetradrachms of Philip Philadelphus and 159 tetradrachms of Alexander: G. Le Rider, Monnaies de Characène, Syria 36 (1959), 240—246. For the Failaka hoards see O. Mørkholm, KUML (1960), 205—207 and Idem, KUML (1972), 201—202, n. 5. For Bahrein hoard see ibid., 195—199. All three hoards are composed almost exclusively of silver imitation Alexander tetradrachms.

[1327] See, for example, a hoard from Kuh-i Tuftan buried c. 140 B.C., E. J. RAPSON, Ancient Silver Coins from Baluchistan, NC 4 ser. 4 (1904), 311—325 = IGCH no. 1803. For the circulation of coinage of the Hellenistic period in Persia in the second and first centuries B.C. see IGCH nos. 1801—1819.

[1328] See, for example, the c. 1500 coins associated with the famous treasure of the Oxus. The possibility of a separate provenience for the coins is discussed by D. SCHLUMBERGER, in: R. CURIEL and D. SCHLUMBERGER, Trésors monétaires d'Afghanistan, MDAFA 14 (Paris 1953), 46—47. But cf. R. D. BARNETT, The Art of Bactria and the Treasure of the Oxus, Iranica Antiqua 7 (1968), 38, who attributes all the coins to the treasure. All of the coins which can be identified were published by A. R. BELLINGER, The Coins from the Treasure of the Oxus, ANSMN 10 (1962), 51—67 who also defends the unity of the hoard. Also on fourth century B.C. Athenian imitation tetradrachms in Bactria see H. NICOLET-PIERRE, Monnaies grecques trouvées en Afghanistan, RN 6 ser. 15 (1973), 35—42.

[1329] For a bibliography of the site see below nn. 1330 and 1543. The site is usually identified with Ποδούκη in Periplus c. 60 (= FRISK, p. 20.6) and Ptolemy, Geog. VII.1.14; so R. E. M. WHEELER, AI 2 (1964), 124.

[1330] The stratigraphy of the site reveals continuous occupation from the pre-Arretine to Arretine and post-Arretine phases. WHEELER dates the Arretine ware to the period A.D. 25—45/50 and the earlier level containing Mediterranean amphorae to c. A.D. 10 onwards; see R. E. M. WHEELER, A. GHOSH and K. DEVA, Arikamedu: An Indo-Roman Trading-Station on the East Coast of India, AI 2 (1946), 22—23, 34—45; IDEM, in: Aspects of Archaeology, 357—358. The potters' stamps on the Arretine ware belong to the Vibi, to C. Amurius, and possibly to P. Attius.

The inscribed Indian potsherds published by R. E. M. WHEELER et al., AI 2 (1946), 109—114 are used to confirm WHEELER'S date for the Arretine, see J. FILLIOZAT, Les Inscriptions de Virapatnam, CRAI (1947), 107—118; IDEM, RH 201 (1949), 19—22. OHLENROTH on the basis of a comparison of the Arretine ware from Oberaden, Oberhausen and Haltern with the Arikamedu finds concluded that they cannot be later than late Augustan: L. OHLENROTH, Zur Datierung der Funde von Arikamedu, Germania 30. 3/4 (1952), 389—392. Even earlier dates, 12—8 B.C., are suggested by the study of E. ETTLINGER, JSGUF 54 (1968/69), 69—71 who notes that the Oberaden material is mostly representative of the earliest period of import of Arretine ware.

A number of histories of the India trade have for reasons of their own arbitrarily suggested a later date for the Arikamedu Arretine ware; so M. P. CHARLESWORTH, in: Johnson Studies, 135 favours a slightly later date; J. PIRENNE, in: M. MOLLAT (ed.), Sociétés, 109 (on the confused notions of the latter about Arretine ware see above n. 1224). While it can be argued that individual pieces of Arretine ware could be in use for generations it is impossible to document CHARLESWORTH'S suggestion that pottery which had gone out of fashion in the Mediterranean was many years later still being shipped to India. This is rendered unlikely by what we know of the very large scale on which early imperial potteries worked: e.g. at La Graufesenque 41 graffiti accounts refer to the production of a total of over 765,000 pieces, see C. CAUSSE, A La Graufesenque, une grande industrie gallo-romaine, Archeologia 7 (1965), 23—27; for further such accounts see R. MARICHAL, Quelques graffites inédits de La Graufesenque (Aveyron), CRAI (1971), 190—193. Some indication of the uniformity of date of pottery cargoes bound for overseas markets can also be obtained from sunken ancient ships carrying cargoes of tableware, e.g. the Antalya wreck: V. MITSOPOULOS-LEON, Gefäße der Ostsigillata A von einem gesunkenem Schiff aus dem Golf von Antalya, Germania 53 (1975), 101—110.

[1331] M. P. CHARLESWORTH, in: Johnson Studies, 135—136 argues that all the Arikamedu pottery was shipped in Indian vessels, since Roman ships did not sail beyond Cape Comorin at this time. Cf. the suggestion of WHEELER that the Roman material at Arikamedu came overland from the West coast ports, R. E. M. WHEELER, in: Aspects of Archaeology, 365—366.

[1332] So R. E. M. Wheeler, in: Aspects of Archaeology, 358—359, 369.

[1333] See above n. 1140 and G. F. Hourani, Arab Seafaring, 28.

[1334] See the fragment of Agatharchides quoted above n. 1157.

[1335] Cf. G. F. Hourani, Arab Seafaring, 25—28.

[1336] According to Hourani modern Arab dhows usually sail from Aden in winter and utilize the less violent Northeast Monsoon, G. F. Hourani, Arab Seafaring, 26. But cf. H. Grosset-Grange, Comment naviguent aujourd'hui les Arabes de l'Ocean Indien?, Arabica 19 (1972), 47—48, who notes that today the marine calendar in the Gulf of Aden begins with the rising of Canopus on August 10.
The onset of the Southwest Monsoon at Vizagapatam (India) varies considerably from year to year with a median date of 26 June (± 26.2 days) for the beginning and October 4 (± 7.1 days) for the end; the times for the Northeast Monsoon are October 13 (± 6.9 days) and November 23 (± 16.8 days); see J. Hann, Beginn und Ende der beiden Monsune zu Vizagapatam (Vorderindien), Metereologische Zeitschrift 28 (1911), 412.

[1337] The normal speed of Arab vessels under sail was two to four knots, see figures collected by G. F. Hourani, Arab Seafaring, 110—112. — A good description of Arab ships is found in G. F. Hourani, op. cit., 89—105. The wood used was usually teak and the timbers were sewn rather than nailed. The larger Roman merchant ships carried about 250 tons, see C. Torr, Ancient Ships^2 (Chicago 1964), 25—26. Graeco-Roman ships could sail at 4.5 to 6 knots with a favourable wind and possibly even more by using the powerful Southwest Monsoons, see L. Casson, Speed Under Sail of Ancient Ships, TAPhA 82 (1951), 138—142; speeds as high as 7 to 8.5 knots are calculated by E. de Saint-Denis, La vitesse des navires anciens, RA 6 ser. 18 (1941), 135.

[1338] See Periplus c. 57 (= Frisk, p. 19.7—12 — see text above n. 1279); cf. W. Schmid, PhW (June, 1928), no. 26. 793, who emends p. 19. 10 to καὶ τὸ λοιπὸν πρὸς τὴν πεπεριφόρον ἴδιον δρόμον and discusses this passage.

[1339] As is clear from the various stands taken by those noted above n. 1080.

[1340] For a discussion of the polite literary genre see H. Grupp, Studien zum antiken Reisegedicht, Unpublished diss. (Tübingen 1953), passim; G. (pp. viii—x) traces the genre back to Aristeas of Proconnesus. On the practical 'Periploi' see J. O. Thomson, History of Ancient Geography (Cambridge 1948), 88—89 on pseudo-Scylax, 74—78 on Hanno, and 289—290 on Arrian. In none of the other 'Periploi' is there the detailed concern with conditions for navigation at various ports or lists of exports and imports at each port.

[1341] See, for example, the famous work by Francesco di Balducci-Pegolotti, La pratica della mercatura, ed. A. Evans (Cambridge, Mass. 1936) from the first half of the fourteenth century. For similar handbooks in Arabic see C. Cahen, Commerce Musulman dans l'Océan Indien au Moyen Age, in: M. Mollat (ed.), Sociétés, 182.

[1342] A bibliography of the 'Periplus' was published by A. Diller, The Tradition of the Minor Greek Geographers (Lancaster, Pa. 1952), 48—99. Althought otherwise a book of very considerable merit, the list therein of modern literature on the 'Periplus' is incomplete. For the various dates suggested see E. A. Schwanbeck, Über den Periplus des Erythräischen Meeres, RhM N.F. 7 (1850), 352—368: contemporary with Pliny's NH; A. Dillmann, Zu der Frage über die Abfassungszeit der Periplus maris erythraei, MPAW (1879), 413—429: before Pliny, c. A.D. 70—75; E. Glaser, Abfassungszeit und Autor des Periplus maris erythraei, Das Ausland 64 (1891), 45—46: A.D. 56—67; B. Fabricius, Der Periplus, 27: before A.D. 77 (Pliny); W. Schoff, The Periplus, 7—15: A.D. 60; Idem, JRAS (1917), 827—830: A.D. 70—89; E. Kornemann, Janus 1 (1921), 59: A.D. 87—105; M. P. Charlesworth, CQ 22 (1928), 93—94: A.D. 50—65; W. Schur, Die Orientpolitik des Kaisers Nero, 53—54: time of Domitian; E. Herzfeld, AMI 4.2 (1932), 89—90: follows Kornemann; J. G. C. Anderson, CAH 10.882: A. D. 40—71 (reign of Malichus II); W. W. Tarn, GBI^2, 148

n. 4: A.D. 40—71 (reign of Malichus II); M. P. Charlesworth, in: Johnson Studies, 132: A. D. 40—75; H. v. Wissmann, in: Festschrift H. Kinzl, 311: under Domitian; J. Ryckmans, Le Muséon 70 (1957), 77—81, 85—86: mid-first century; D. W. MacDowall, The Early Western Satraps and the Date of the Periplus, NC 7 ser. 4 (1964), 271—280: c. A.D. 120—130; A. Dihle, Umstrittene Daten, 9—35: in the first century, probably reign of Malichus II (which D. erroneously dates A.D. 60—75); P. H. L. Eggermont, The Date of the Periplus Maris Erythaei, in: Kaniṣka Papers, 94—95: c. A.D. 30 as definitive on the basis of J. Ryckmans' earlier discussions of South Arabian chronology; J. I. Miller, Spice Trade, 6—18: c. A.D. 79—84, approved by E. W. Gray, JRS 60 (1970), 222; B. N. Mukherjee, Kanishka I, 123—124: c. A.D. 1—150; D. W. MacDowall and N. G. Wilson, The References to the Kuṣāṇas in the Periplus and further Numismatic Evidence for its Date, NC 7 ser. 10 (1970), 221—240: c. A.D. 100±5; E. H. Warmington, Commerce², 15—16, cf. 394a: time of Nero. G. Mathew, The Dating and Significance of the Periplus of the Erythrean Sea, in: H. N. Chittick and R. J. Rotberg (eds.), East Africa and the Orient, 154—158: accepts MacDowall's date of A.D. 120—130. I do not agree with W. Raunig, Die Versuche einer Datierung des Periplus maris Erythraei, MAGW 100 (1970), 240 who after a review of most current theories about the date of the 'Periplus' concludes that a date cannot be convincingly established.

[1343] The third century was proposed in the last century: J. T. Reinaud, Mémoire sur le commencement et la fin du royaume de la Mésène et de la Kharacène (Paris 1861), 63—104: A. D. 246/247; Idem, Mémoire sur le Périple de la mer Érythrée et sur la navigation des mers orientales au milieu du troisième siècle de l'ère chrétienne, MAI 24.2 (1864), 225—277: same date. See now J. Pirenne, Un problème-clef pour la chronologie de l'Orient: La date du Périple de la Mer Érythrée, JA 249 (1961), 441—459: c. A.D. 225; cf. P. Lévêque, Une chronologie nouvelle des royaumes sud-arabes et du Périple de la Mer Érythrée, REG 75 (1962), 231—235; F. Altheim, Geschichte der Hunnen, 5.14—15: c. A.D. 208 to 210; A. K. Irvine, JSmSt 10 (1965), 183 n. 7. Altheim's proposed date is followed by J. Pirenne, in: M. Mollat (ed.), Sociétés, 112—113; so also H. v. Wissmann, Le Muséon 77 (1964), 478—483; J. Desanges, Annales d'Éthiopie 7 (1967), 148 n. 3; cf. Idem, ANRW II 10, 1, n. 40; A. G. Lundine and J. Ryckmans, Le Muséon 77 (1964), 422. R. C. Majumdar, The Date of the Periplus of the Erythraean Sea, IHQ 38.2/3 (1962), 89—97 (cf. the scathing rejection by D. C. Sircar, Date of the Periplus, IHQ 39.1/2 [1963], 138—142). Others favour a somewhat earlier date in the second century; so J. Ryckmans, OA 3 (1964), 73, 76—78; cf. F. Coarelli, Archeologia Classica 13 (1961), 171 n. 1, 174: post Trajanic. See also P. Lévêque, La date du Périple de la Mer Érythrée, REG 76 (1963), 428—429 and the reversal of his support of Pirenne, Idem, Nouvelles contestations sur la Périple de la Mer Érythrée, REG 79 (1966), 730—732.

[1344] Periplus c. 19 (= Frisk, p. 6. 28—29): .... Λευκὴ κώμη, δι' ἧς ἐστιν εἰς Πέτραν πρὸς Μαλίχαν, βασιλέα Ναβαταίων ⟨ἀνάβασις⟩.

[1345] So A. Dillmann, MPAW (1879), 428—429: c. A.D. 70—75, based on his date for Malichus; J. Kennedy, Eastern Kings Contemporary with the Periplus, JRAS (1918), 106—107, 111—112, 114; O. Leuze, OLZ (1924), 346; M. P. Charlesworth, CQ 22 (1928), 93—94 (with dates A. D. 40—70); Idem, in :Johnson Studies, 136; H. Kortenbeutel, Süd- u. Osthandel, 11; J. G. C. Anderson, CAH 10.882 (with a date of A.D. 40—71); W. W. Tarn, GBI², 148 n. 4 (follows Anderson); W. F. Albright, BASOR 119 (1950), 14 n. 29 (c. A.D. 40—70); D. W. MacDowall and N. G. Wilson, NC 7 ser. 10 (1970), 239, who erroneously suggested that any date to A.D. 106 is possible. So most recently G. W. Bowersock, JRS 61 (1971), 222—224 with a complete list of Nabataean kings. The chronology of the Nabataean kings is based on both dated coins and inscriptions, see J. Starcky, Petra et la Nabatène, Suppl. au Dictionaire de la Bible, fasc. 39 (Paris 1964), 916—919. A further inscription of Malichus II (undated) was published by J. Starcky and J. Strugnell, Pétra: deux nouvelles inscriptions nabatéennes, RB 73.2 (1966), 244—247; cf. J. Starcky, Une inscription nabatéenne de l'an 18 d'Arétas IV, in: Hommages à Dupont-Sommer, 156.

[1346] Dussaud has long believed in the existence of a Malichus III, with a date of A.D. 106—126, who retained an independent Nabataean kingdom after A.D. 106 in the area south of the Dead Sea; see R. Dussaud, JA 10 ser. 3 (1904), 192 (with a date of 101—106); cf. Idem, La pénétration des Arabes en Syrie avant l'Islam (Paris 1955), 54,211 (A.D. 106—126); J. Pirenne, Le royaume sud-arabe, 190—193, following Dussaud; cf. J. I. Miller, Spice Trade, 18, who is thoroughly confused by the arguments and suggests a Malichus III "after A.D. 70 and before 105"!; equally confused is R. C. Majumdar, IHQ 38.2/3 (1962), 92 who argues that there is no evidence for a Nabataean king Malichus in c. A.D. 70.

Pirenne's argument that Ναβαταίων in the MS is a correction in a second hand is irrelevant to the meaning of the passage; see J. Pirenne, Le royaume sud-arabe, 187—190, where she suggests the emendation ἀναβατέον for Frisk's ⟨ἀνάβασις⟩. Followed by F. Altheim and R. Stiehl, Die Araber in der Alten Welt 1.41; 4.493; 5.2.537 (in the latter instance A's criticism of Hansen's use of Μάλχος rather than Μαλίχας is also applicable to A's own discussion in: ibid., 1.41). For the view accepted here see G. W. Bowersock, JRS 61 (1971), 223—224. Pirenne's comments on the MS are based on H. Frisk, Le Périple de la Mer Erythrée, Göteborgs Högskolas Årsskrift 33.1 (1927), 30—34. The best description of Codex Palatinus Graecus 398 (in Heidelberg) is found in A. Diller, The Tradition of the Minor Greek Geographers, 3—10, who gives a ninth-century date. Codex Vatopedinus 655 (fourteenth century) contained a text copied from the Palatinus codex. The former was pilfered in the 1840's and leaves containing the text of the 'Periplus of the Erythraean Sea' eventually found their way into the British Museum collection (London, add. 19391); see: ibid., 10—14.

[1347] A Nabataean papyrus published by Starcky is dated by a Nabataean king; the original editor noted that the hand was more developed than lapidary scripts of the late Nabataean period; see J. Starcky, Un contrat nabatéen sur papyrus, RB 71 (1954), 161—181. Cited as evidence for Malichus III by R. Dussaud, La pénétration des Arabes, 211; J. Pirenne, JA 249 (1961), 451; Idem, Le royaume sud-arabe, 190; cf. the criticism of A. Dihle, Umstrittene Daten, 13—14; G. W. Bowersock, JRS 61 (1971), 223—224.

[1348] For Nabataean territorial expansion to the south see A. Lammens, L'Arabie occidentale avant l'Hégire (Beirut 1928), 310—311, 315. CIS II.332, a gravestone from Dedan (in the oasis of El-'Ela) is dated in the first year of Aretas IV (9 B.C.). For Nabataean control of this area see W. Caskel, Lihyan, 36—37. The vicinity of the town has yielded 31 undated Nabataean graffiti, Jaussen and Savignac, Mission, II. nos. Nab. 201bis to 224, 382—385, 388—389, 391. The graffiti prove little except that Nabataean traders passed this way; but cf. no. 216, the graffito of a *RBYB'L* possibly to be identified with the *strategus* (*'srtg'*) in CIS II, 224 = Jaussen and Savignac, Mission, II. no. Nab. 34 = RES 1156 (from Meda'in Salih); cf. CIS II, 287 = Jaussen and Savignac, Mission, II. no. Nab. 84. For the Nabataean *strategus* see H. Bengtson, Die Strategie in der Hellenistischen Zeit, 2 (Munich 1964), 271—276. This suggests that Nabataean officials were active this far south. But cf. P. J. Parr, G. L. Harding and J. E. Dayton, Preliminary Survey in N. W. Arabia, 1968, BIAL 8/9 (1968/69), 213, who note that not a single sherd of Nabataean pottery was found in the El-'Ela valley.

The evidence for Roman occupation of the Hejaz has increased in recent years. For a Greek dedication of a soldier of *Legio III Cyrenaica* found at Meda'in Salih see T. C. Barger, Greek Inscription Deciphered, Archaeology 22 (1969), 139—140. Graffiti of Roman soldiers from the second century of our era have been found between El-'Ela and Meda'in Salih (see above p. 879, n. 936). A Thamudic temple in honour of Marcus Aurelius and Lucius Verus at Rawwafah has yielded a number of epigraphic texts. For the temple see A. Musil, The Northern Hegaz (New York 1926), 184—189, 258, 291—292; more recently Philby's report of a visit to the site, H. St. J. B. Philby, The Lost Ruins of Quraiya, GJ 117 (1951), 448—453. Cf. the publication of Greek texts from the temple in H. Seyrig, Sur trois inscriptions du Hedjaz, Syria 34 (1957), 259—261; the new Greek text found by Philby mentions a propraetorian legate Claudius Modestus; see also A. van den Branden, Histoire de Thamoud (Beirut 1960), 15, 22—23; the most recent and accurate description of the temple was published in P. J. Parr, G. L. Harding and J. E. Dayton, BIAL 8/9 (1968/69), 215—219. The bilingual Greek and Nabataean dedication inscription is now fully published; see G. W. Bowersock, The Greek-Nabataean Bilingual Inscription at Rawwafa, Saudi Arabia, in: G. Cambier (ed.), Hommages à Claire Préaux (Bruxelles 1970), 513—516.

[1349] Before the Roman annexation Nabataean influence extended along the entire length of the Wadi Sirhan. The implications of this are clear; the Romans utilized the Wadi Sirhan as the Nabataeans had before them and thus at least nominally had control of this region; see the conclusion of G. W. Bowersock, JRS 61 (1971), 241—242. There is thus no room either to the south or to the east for any sort of independent Nabataean princedom after A.D. 106. For the remains of a Roman fort at Azrak and a near-by cistern complex in Wadi Sirhan, see L. B. W. Rees, Ancient Reservoirs near Kasr Azrak, Antiquity 3 (1929), 89—91. Only the Roman defence lines running north from the head of the Gulf of Aqaba to a point south-east of the Dead Sea are considered by M. Gichon, The Origin of the Limes Palaestinae and the Major Phases in its Development, in: Studien zu den Militärgrenzen Roms, BJ Beiheft 19 (Bonn 1967), 184—186 who still regards this as the imperial frontier.

[1350] Periplus c. 19 (= Frisk, p. 6. 29—31 — p. 7. 1—2): (Λευκὴ κώμη), Ἔχει δὲ ἐμπορίου τινὰ καὶ αὐτὴ τάξιν τοῖς ἀπὸ τῆς Ἀραβίας ἐξαρτιζομένοις εἰς αὐτὴν πλοίοις οὐ μεγάλοις. Διὸ καὶ εἰς αὐτὴν παραλήπτης τῆς τετάρτης τῶν εἰσφερομένων φορτίων καὶ παραφυλακῆς χάριν [καὶ] ἑκατοντάρχης μετὰ στρατεύματος ἀποστέλλεται. Cf. A. G. Roos, Gnomon 8 (1932), 505, who prefers the MS reading διὸ καὶ παραφυλακῆς χάριν καὶ εἰς αὐτὴν κ. τ. λ. and O. Hirschfeld, Die kaiserlichen Verwaltungsbeamten², 80—81, who suggests τετταρακοστῆς for τετάρτης. It was frequently argued that the officer and customs collector mentioned are Nabataean officials; so E. A. Schwanbeck, RhM N.F. 7 (1850), 341—342; B. Fabricius, Der Periplus, 138; U. Wilcken, APF 3.2 (1903/06), 197—200 (a reversal of his view in WO I. 398); and with variations E. H. Warmington, Commerce², 16. Cf. rejection of this view by M. Rostovtzeff, APF 4 (1907/08), 307—308; E. Kornemann, Janus 1 (1921), 62; S. J. de Laet, Portorium, 307—309; M. P. Charlesworth, in: Johnson Studies, 139; K. Wellesley, RhM N.F. 98 (1955), 146—147 n. 5; A. Dihle, Umstrittene Daten, 14. The passage is incorrectly translated in F. Heichelheim, Roman Syria, 238.

The designation παραλήμπτης is also relatively well attested in Roman Egypt, e. g. P. Ryl. II. 189: παραλήμπτης δημοσίου ἱματισμοῦ κουστωδιῶν; also the ἱματιοπαραλῆμπται BGU VII. 1564. See discussion of these officials in J. Lesquier, L'Armée romaine, 368—369; R. Rémondon, Notes de papyrologie. La retenue de 6,50%, RPh 32 (1958), 244—260; E. Wipszycka, Das Textilhandwerk und der Staat im Römischen Ägypten, APF 18 (1966), 5—7; cf. also BGU II. 381: Ἀφ[ροδ]ί̣[σ]ι̣[ος] καὶ Ἀπίων εὐσχήμονες καὶ παραλῆμπται συναγοραστικῆς κριθῆς Ἡρακλείδου μερίδος; see also above p. 826, n. 748. Of a different order apparently is the official in OGIS 202 from Pselkis (Dakka): [Ἀμμ]ώνιος, Πτολεμαίου / [ἀραβάρ]χου υἱός, στρατηγὸς τοῦ [Ὀμβ]είτου καὶ τοῦ / περὶ Ἐλεφαν/[τίνην] καὶ Φίλας καὶ παραλήμπτης / [τῆς Ἐρ]υθρᾶς θαλάσσης . . . . ; cf. H. Henne, Liste des stratèges des Nomes Égyptiens, 18; F. Oertel, Die Liturgie, 298; cf. S. J. de Laet, Portorium, 306. A possible parallel for the status of Ammonius may be found in a Coptos inscription of A.D. 103, IGR I.1175: παραλήπ[τ]ου καὶ στρατηγοῦ Κλαυδίου / χρυσέρμου. The date of OGIS 202 was first considered to be late Ptolemaic, so M. Rostovtzeff, WKPh (1900), 116 and Idem, Staatspacht, 396 (his CIG III.5075 = OGIS 202). For the Augustan date see U. Wilcken, APF 3.2 (1903/06), 196—197. On τετάρτη μύρων or μύρου see above n. 1199. Cf. S. J. de Laet, Portorium, 307, who argues that the παραλήπτης of Periplus c. 19 is probably a freedman agent of the *publicanus* who farmed the *vectigal Maris Rubri*.

[1351] It is a Nabataean port at the time of the expedition of Aelius Gallus; Strabo XVI.4.23: Λευκὴν κώμην τῆς Ναβαταίων γῆς; cf. J. M. West, Uranius, 21—23, 153, n. 26.

[1352] As was pointed out by M. P. Charlesworth, CQ 22 (1928), 97—98; A. Dihle, Umstrittene Daten, 14—15. This is usually the argument of those who favour a date after A. D. 106; so J. Pirenne, JA 249 (1961), 450—451. But the stationing of Roman troops in client states is a well attested practice: cf. M. Lemosse, Le régime des relations internationales dans le Haut-Empire Romain, 101—104, 112—113. For the client kings and dynasts of the East under Augustus see G. W. Bowersock, Augustus and the Greek World (Oxford 1965), 42—61. Augustus appointed an ἐπίτροπος in Cappadocia during the reign of Archelaus, Dio LVII.17.5, cf. E. Bammel, Die Schatzung des Archelaus, Historia 7 (1958), 500 and Th. Liebmann-Frankfort, Les étapes de l'intégration de la Cappadoce dans l'Empire Romain, in: Hommages à Claire Préaux, 423—424. For the service of Roman officers in the armies of vassal princes see for example the *cursus* of T. Mucius Clemens who, after earlier posts in the Roman army, served as ἔπαρχος σπ[είρης τοῦ] / βασιλεώς μεγάλου Ἀγρίπ[πα., see M. Avi-Yonah, The Epitaph of T. Mucius Clemens, IEJ 16.4 (1966), 259, 263.
For the use of troops and centurions in tax collection see the evidence from Egypt: P. Princ. I.13.xvii.34 (c. A.D. 35), the account of a taxation official, lists among the expenses a payment made to soldiers; ChLA IV.264.8, money collected as taxes by six military units in the Thebaid is delivered by a centurion: . . . . .] *Missae ab Vale[rio Perp]ẹtuo (centurione) de chorṭ[ibus et alis i(nfra) s(criptis)]*. For use of centurions in civil administration in the second century see the new interpretation of P. Mich. VII.447: R. O. Fink, P. Mich. VII.447, AJA 68 (1964), 297—299; further examples in E. Sander, Das Recht des römischen Soldaten, RhM N. F. 101 (1958), 213—214, 223—224.

[1353] Periplus c. 1 (= Frisk, p. 1.1—5); cf. above p. 901, n. 993.

[1354] For the monopoly on *aromata* in Roman Egypt see above p. 901, n. 992.

[1355] See, for example, the efforts of J. A. B. Palmer, Periplus Maris Eythraei: the Indian Evidence as to the Date, CQ 41 (1947), 137—140; D. M. MacDowall, The Early Western Satraps and the Date of the Periplus, NC 7 ser. 4 (1964), 271—280; cf. also J. Pirenne, JA 249 (1961), 455—458. A specific and allegedly datable event is recognized by Palmer and MacDowall in Periplus 52 (= Frisk, p. 17.17—21): Τοπικὰ δὲ ἐμπόρια κατὰ τὸ ἑξῆς κείμενα Ἀκαβαρου Σούππαρα καὶ Καλλίενα πόλις, ἡ ἐπὶ τῶν Σαραγάνου τοῦ πρεσβυτέρου χρόνων ἐμπόριον ἔνθεσμον γενομένη· μετὰ γὰρ τὸ κατασχεῖν αὐτὴν Σανδάνην ἐκωλύθη ἐπὶ πολύ· καὶ γὰρ τὰ ἐκ τύχης εἰς τούτους τοὺς τόπους ἐσβάλλοντα πλοῖα Ἑλληνικὰ μετὰ φυλακῆς εἰς Βαρύγαζαν εἰσάγεται. This is understood together with c. 51 (= Frisk, p. 17.8—12): Τῶν δὲ ἐν αὐτῇ τῇ Δαχιναβάδει δύο ἐστὶν τὰ διασημότατα ἐμπόρια, Παίθανα μὲν ἀπὸ Βαρυγάζων ἔχουσα ὁδὸν ἡμερῶν εἴκοσι πρὸς νότον ἀπὸ ⟨δὲ⟩ ταύτης ὡς ἡμερῶν δέκα πρὸς ἀνατολὴν ἑτέρα πόλις μεγίστη Ταγάρα. Κατάγεται δὲ ἐξ αὐτῶν πορείαις ἁμαξῶν καὶ ἀνοδίαις μεγίσταις εἰς τὴν Βαρύγαζαν . . . . Both Palmer and MacDowall see in these two passages the reflection of warfare between either Nahapāna (or the Western Kṣatrapas) and the Andhras. Palmer argued that Kalliena, which had once been an ἐμπόριον ἔνθεσμον under the elder Saraganos (P. suggests the Andhra dynastic name 'Satakarni') was closed in the time of Sandanes to prevent direct commerce with the hostile Andhras who were thus compelled to send their exports to Nahapāna's port of Barygaza by a difficult overland route rather than using their natural outlet to the sea at Kalliena. MacDowall's hypothesis is more difficult to follow and at times becomes rather confusing: Nahapāna during his occupation of Nasik (see inscriptions, above p. 754, n. 475) interfered with Andhra-Greek trade and this led the latter to secure a new outlet to the sea at Barygaza from which they hindered Nahapāna's trade at Kalliena. Both hypotheses must be rejected, Palmer's because it cannot be substantiated from the text, MacDowall's because it is simply wrong. Neither author will identify Sandanes (Palmer seems to imply he is an Andhra ruler). But careful reading of the 'Periplus' reveals that both Barygaza and Kalliena are in the kingdom of Mambanos (for the possible identification with Nahapāna see above p. 755, n. 477). There is no mention of hostile action. Sandanes, as Mambanos' viceroy, orders all Greek ships to go to Barygaza. Kalliena is no longer a legally accessible port and the key to the explanation of this passage is found not in the economically motivated warfare of hostile powers, but rather in the routine enforcement of the use of a 'port of trade' by foreign merchants. On this see above pp. 673—674.

[1356] See above pp. 955—959.

[1357] Periplus c. 27 (= Frisk, p. 9.3—8): . . . οὗ μετὰ τὴν προέχουσαν ἄκραν ἐμπόριόν ἐστιν ἕτερον παραθαλάσσιον Κανή, βασιλείας 'Ελεάζου, χώρας Λιβανωτοφόρου . . . . 'Υπέρκειται δὲ αὐτῆς μεσόγειος ἡ μητρόπολις Σαυβαθά, ἐν ᾗ καὶ ὁ βασιλεὺς κατοικεῖ. Early efforts to identify 'Ελεάζος were hindered by Fabricius' erroneous reading 'Ιλάσαρος hence G. F. Hill, PBA (1915), 70 suggests identification with Ilšaraḥ Yaḥḍub.

[1358] The identification of 'Ελεάζος with 'Ill'azz Yalūṭ bin 'Ammḏaẖar (RES 3958) was suggested by A. Jamme, Pièces épigraphiques de Ḥeid bin 'Aqîl, la nécropole de Timna' (Hagr Koḥlân) (Louvain 1952), 1 n. 3; accepted by J. Ryckmans, BiOr 10.6 (1953), 207—208, who supplies the date A.D. 29 or 26 for RES 3958 on the basis of a Sabaean era beginning 118 or 115 B.C.; so also W. F. Albright, JAOS 73 (1953), 38—39 arguing that 'Ill'azz Yalūṭ is a contemporary of Ša'irum Awtar; cf. H. v. Wissmann, Le Muséon 77 (1964), 483—484 with a third century date. A synchronism exists: cf. RES 4909 where 'Ill'azz Yalūṭ appears as an ally of Ia'ran Ya'ub Yuhan'im, *mlk/sb'/wdrydn*. But the date of neither ruler can be accurately fixed. Furthermore 'Ill'azz is not an uncommon name among the kings of the Hadhramaut, e.g. CIH 334; Ja 640: Hamilton 8, cf. W. L. Brown and A. F. L. Beeston, Sculptures and Inscriptions from Shabwa, JRAS (1954), 55—56.

[1359] Periplus c. 33 (= Frisk, p. 11.8—12): ⟨'Απὸ δὲ Μόσχα⟩ λιμένος ἐπ' ἄλλους σταδίους ὡς χιλίους πεντακοσίους ἕως 'Ασίχωνος ἄχρι ⟨ὄρος⟩ τῇ γῇ παρατείνει καὶ κατὰ τὸ ἀπολῆγον αὐτοῦ μέρος ἑπτὰ νῆσοι πρόκεινται κατὰ τὸ ἑξῆς, αἱ Ζηνοβίου λεγόμεναι, μεθ' ἃς ἄλλη παράκειται χώρα βάρβαρος οὐκέτι τῆς αὐτῆς βασιλείας ἀλλ' ἤδη τῆς Περσίδος, ... An inscription partially published by A. Jamme, A propos des rois Ḥaḍramoutiques de al-'Uqlah (Washington 1965), 51 and fully published in H. v. Wissmann, Le Muséon 80 (1967), 490, 508—512 (by Ryckmans) = Sh 31 mentions an embassy (so Ryckmans) to *qṭw'f/w(s)wk/ m[m]lkty/frs/w'rd/tnẖ*. The meaning is not certain: El-Qatif and [K]WK were said to be Persian, the state of Tanūẖ is obscure. The ruler who despatched the embassy, Šamir Yuhar'iš, is usually dated to the third century: Ja 653.19—21: Šamir Yuhar'iš *mlk/sb'/wḏrydn/bn/ysrm/yhn'm/mlk/sb'/wḏrydn;* see also Ja 649. 650. 651. 652. 654. 655, etc.; Ja 656.20—21 gives the longer royal title adopted as a result of Šamir's military success: *mlk/sb'/wḏrydn/wḥḍrmt/wymnt* i. e. king of Saba', Du-Raydan, Hadhramaut and Yamnat; so also G. W. Bowersock, The Greek-Nabataean Bilingual Inscription at Ruwwāfa, Saudi Arabia, in: Hommages à Claire Préaux, 521 and W. Caskel, Die Inschrift von En-Nemara — neu gesehen, MUSJ 45 (1969), 367—368. The text was simultaneously published in Arabic as Sh 31 by Sharafaddin and republished by W. W. Müller, Eine Sabäische Gesandtschaft in Ktesiphon und Seleukeia, NESE 2 (1974), 155—165 who reads lines 11—12 as: *qṭwṣf / wkwk / mmlkty / frs / w'rd / tnẖ* . . . In this case Raiman the high official of Šamir Yuhar'iš mentions an embassy to Asad, the Persian court in Choche and Ctesiphon and finally Tanūẖ (for an earlier Sabaean embassy to Asad see Ja 2110 in D. B. Doe and A. Jamme, New Sabaean Inscriptions from South Arabia, JRAS [1968], 15—16 corrected by Müller, op. cit., 160). The text is again republished from a new photograph by A. G. Lundine, Sabeiskii chinovnik i diplomat III v.n.e., PalSb 25 (1974), 95—104 who reads lines 10—11 (p. 97) differently: *qtw'f / wkwk / mmlkty / frs / w'rd / tnẖ*. The reference to a possible early Sasanian domination of eastern Arabia in this text is thus far from secure. Green glazed pottery typical of the late Parthian and Sasanian periods has been found at Habil and Abyan in Aden, but apart from such finds there are no other traces of contact with Persia, see A. Lane and R. B. Serjeant, Pottery and Glass Fragments from the Aden Littoral with Historical Notes, JRAS (1948), 121; cf. another possible sherd from Salihiyah, near Khawran in Ras al-Khaimah, B. de Cardi and D. B. Doe, Archaeological Survey in the Northern Trucial States, E&W n.s. 21.3/4 (1971), 260.

This passage of the 'Periplus' is the strongest argument for a late date in the entire text, see J. PIRENNE, JA 249 (1961), 445—446, 453—456; F. ALTHEIM and R. STIEHL, Die Araber in der Alten Welt, 5.1.166. A Sasanian conquest of parts of eastern Arabia is known. Tabari mentions a conquest of Bahrein by Ardashir but attributes a king Sanatruq to the place (I.820.1—2). ALTHEIM and STIEHL have emended the text arguing that an obvious place name has been lost: *ṯumma tawağğaha ardaširu min ğōra ilā l-baḥrain ⟨fa-l-ḥaḍr⟩, fa-ḥāṣara sanaṭruka malikahā*. See F. ALTHEIM and R. STIEHL, Geschichte der Hunnen, 5.133. But this reconstruction, contrary to what ALTHEIM argues (Araber, 5.1.166), has no bearing on his date of the 'Periplus'. A number of observations may be made. Sanatruq is indeed a well attested royal name at Hatra. At least two kings of this name appear in the inscriptions of the city: Hatra inscr. nos. 28 (A. CAQUOT, Syria 30 [1953], 234—235), 36 (ibid., 241), 37 (ibid., 242), 79 (A. CAQUOT, Syria 40 [1963], 2—6, cf. J. TEIXIDOR, Notes hatréennes, 2. L'inscription de Hatra no. 79, Syria 41 [1964], 280—284), no. 82 (A. CAQUOT, Syria 40 [1963], 7), 112 — *snṭrwq br snṭrwq* — (A. CAQUOT, Syria 41 [1964], 254), 120 (ibid., 255), 124 — *snṭrwq br 'bdly* — (ibid., 256), 139 (ibid., 258), 144 (ibid., 260), 194 — *snṭrwq br nṣrw* — (ibid., 268), 195 (ibid., 269), 197 (ibid.), 198 (ibid.), 202.4 (ibid., 271), 203 — *snṭrwq br 'bdsmy* — (ibid.). Nos. 36 (year 549) and 82 (year 488) bear dates, the former one equivalent to A.D. 239 in the Seleucid era. SAFAR, availing himself of the new readings of the dates in the Hatra inscriptions arising from J. T. MILIK's study (see above n. 723), has established that Sanatruq II was the last king of Hatra, see F. SAFAR, The Lords and Kings of Hatra, Sumer 29.1/2 (1973), 95—96. Other considerations are fatal to ALTHEIM's thesis. As he himself admits, on his own chronology Ardashir's conquest of Bahrein falls just before that of Hatra which he places just before end of Ardashir's reign (so in: Geschichte der Hunnen, 5.133); but the conquest of Bahrein must fall before his date for the 'Periplus', A.D. 210. Tabari provides a relative chronology: Ardashir went from Gur to Bahrein. On ALTHEIM's chronology Gur was not founded until A.D. 212/13 (so in: Die Araber in der Alten Welt, 2. 236—237), nor does an expedition across the Persian Gulf make much sense until Ardashir is secure in his rule of Fars, thus not until c. 215—220 (see works cited below n. 1361). Furthermore, we can be certain that Ardashir did not capture Hatra until the last year of his reign and thus the text of Tabari must stand without ALTHEIM-STIEHL's emendation. The earliest campaign of Ardashir against Hatra falls after the defeat of Artabanus V. Dio LXXX.3.2—3 records that the walls of the city were breached but after heavy losses the Sasanian king departed for Media. These events thus fall c. A.D. 226/227. After this close call the city was drawn closer to Rome and accepted a Roman garrison. Three Latin inscriptions from this garrison are known, one from A.D. 235, see D. OATES, A Note on Three Latin Inscriptions from Hatra, Sumer 11 (1955), 39—43; cf. A. MARICQ, Classica et Orientalia 2. Les derniers années de Hatra: l'alliance romaine, Syria 34 (1957), 288—298 = IDEM, Classica et Orientalia (Paris 1956), 17—26, who also republishes a Latin milestone from Singara of 231/232. The Greek Mani-codex now furnishes a secure date for the capture of Hatra by Ardashir by synchronizing the event with the year of Mani's twenty-fourth birthday and Shapur's coronation as co-ruler, i. e. 240/241 (Cologne Codex 18.1—15): [ὅτε δὲ τεσσάρων καὶ εἴ]κοσι ἐτῶν ὑπῆρξα, [ἐν] τῶι ἔτει ὧι ὑπέταξεν Ἄτραν τὴν πόλιν Δαριά[ρ]δαξαρ ὁ βασιλεὺς τῆς Περσίδος, ἐν ὧι καὶ Σαπώρης ὁ βασιλεὺς ὁ υἱὸς αὐτοῦ διάδημα μέγιστον ἀνεδήσατο, . . . A. HENRICHS and L. KOENEN, Ein griechischer Mani-Codex, ZPE 5.2 (1970), 120, n. 52; cf. R. KÖBERT, Orientalistische Bemerkungen zum Kölner Mani-Codex, ZPE 8.3 (1971), 244—247, cf. L. KOENEN, Das Datum der Offenbarung und Geburt Manis, ibid., 247—250. (The codex probably originated from the Manichaean colony in the Thebaid, see L. KOENEN, Zur Herkunft des Kölner Mani-Codex, ZPE 11.3 [1973], 240—241; for the presence of Manichaeans in Upper Egypt in the fourth century see J. JARRY, Le Manichéisme en Égypte byzantine, BIFAO 66 [1968], 137). Another solution to the reference to Bahrein in Tabari has been suggested by GHIRSHMAN, Châpour Ier, 'Roi des Rois' sans couronne, AcIr 2 ser. 1 (1975), 260—261, n. 6 who notes that since Tabari places the crowning of Shapur after a campaign to Bahrein the text should be emended in the light of the Mani-Codex to refer to the conquest of Hatra rather than to that of the Persian Gulf island.

But the text of Tabari, if unemended, may provide a clue of another sort. According to Tabari, Bahrein at the time of Ardashir's conquest was ruled by a dynasty whose king bore an Iranian name, Sanatruq. For *SNṬRWQ* as an Iranian name see A. Caquot, Syria 29 (1952), 112. Such names are not uncommon among the rulers and nobles of Hatra: e. g. *WRWD* in Hatra inscription nos. 60 (Syria 32 [1955], 263), 20 (Syria 29 [1952], 99), 102 (Syria 40 [1963], 11), and *WLGŠ* in no. 140 (ibid., 259). The king's name could thus provide a slender clue that this part of Arabia had Iranian rulers before the period of Sasanian dominance. The 'Periplus' thus provides us with a new historical fact. In the mid-first century the area of modern Oman was a dependency of the kings of Persis. The reason why Persis should wish to control this part of Arabia is uncertain. The 'Periplus' mentions no ports in this region and notes only that the inhabitants were primitive and treacherous; cf. c. 33 (= Frisk, p. 11.15—17). Unlike Himyar's African possessions no maritime traffic is noted between Ommana in Persis and Eastern Arabia. Persian ships sailed only to Qana in the Hadhramaut; cf. Periplus c. 36 (= Frisk, p. 12.7—9).

1360 That this distinction must be made in assessing the information furnished by the 'Periplus' was noted already by E. A. Schwanbeck, RhM N.F. 7 (1850), 329—333; A. Dihle, Umstrittene Daten, 27—28, 32—33. This lack of awareness does not, however, indicate that the Persian Gulf trade with India was not flourishing. The close commercial ties of this region with India are attested by both Palmyrene inscriptions (above n. 785) and abundant finds of Indian Red Polished Ware (cf. below n. 1549) at sites on the Bushire peninsula and at a number of coastal sites including Minab, see D. Whitehouse and A. Williamson, Sasanian Maritime Trade, Iran 11 (1973), 39.

1361 The most important passage is Periplus c. 35 (= Frisk, p. 11.32—p. 12.1—2): καθ' ὃν ἐν τοῖς ἐσχάτοις αὐτοῦ (ὁ Περσικὸς κόλπος) μέρεσιν ἐμπόριόν ἐστιν νόμιμον λεγόμενον ἡ 'Απολόγου, κειμένη κατὰ Πασίνου Χάρακα καὶ ποταμὸν Εὐφράτην. Advocates of the third-century date for the 'Periplus' see here a reference to the time after Ardashir's conquest of Characene; so J. Pirenne, JA 249 (1961), 453. But this is inconsistent with the date of A.D. 210 which Pirenne finally accepts (see above n. 1343). The conquest of the region about the head of the Persian Gulf must be placed only shortly before the decisive battle at Hormizdjan (see below).

The chronology of the early Sasanian rulers Ardashir and Shapur I has long been the subject of controversy. The sequence of events which took Ardashir from local ruler of Persis to king of kings is shrouded in legend. The last Parthian king, Artabanus V, was not defeated until the decisive battle of Hormizdjan dated to A.D. 224 by Taqizadeh. For the events leading up to this battle see T. Nöldeke, Geschichte der Perser und Araber zur Zeit der Sasaniden (Leiden 1879), 400—436; S. Q. Taqizadeh, The Early Sasanians, BSOAS 11 (1943/46), 34—41. The fundamental study of early Sasanian chronology is that of S. H. Taqizadeh, BSOAS 11 (1943/46), 6—51; cf. Idem, The Dates of Mani's Life, AM 6 (1957), 106—115 rejecting Henning's revision: W. B. Henning, The Compendium of the Doctrines and Styles of the Teaching of Mani, the Buddha of Light, AM 3.2 (1952), 199 n. 4, 200—201, who on the basis of a newly published Chinese text of a life of Mani suggests changes in Taqizadeh's chronology; cf. Idem, AM 6 (1957), 116—121 (answer to Taqizadeh). Taqizadeh places the beginning of Ardashir's first year on September 26, 226, and his accession on April 2, 227. Henning argues for September 27, 223 and April 28, 224 respectively; cf. A. Maricq, Recherches 29—38; Idem, Syria 35 (1958), 345—348. The initial year of the fire of Ardashir is A.D. 208 (see the inscription of Shapur I from Bishapur published by R. Ghirshman, Inscription du monument de Châpour Ier à Châpour, RAA 10 [1936], 123—129, esp. 127); cf. L. Trümpelmann, Sāpūr mit der Adlerkopfkappe. Zur Investitur bei den Sasaniden, AMI N.F. 4 (1971), 177—178. See now A. Henrichs and L. Koenen, ZPE 5.2 (1970), 126—130. It is possible that archaeological investigations in the ruins around Ardashir's round city of Gur, a major centre of his power before he defeated the Parthians, may shed some light on these problems, see D. Huff, An Archaeological Survey in the Area of Firuzabad, Fars, in 1972, in: F. Bagherzadeh, Proceedings of the IInd Annual Symposium on

Archaeological Research in Iran, 29th October—1st November 1973 (Tehran 1974), 155—161. For the coinage issued by Ardashir before his conquest of Parthia see V. G. LUKONIN, Monnaie d'Ardachir I et l'art officiel Sassanide, Iranica Antiqua 8 (1968), 108—109.

The stele of Khwāsak found at Susa in 1947 is of considerable importance here; see R. GHIRSHMAN, MonPiot 44 (1950), 97—107. The inscription is dated in the year 462 of the Parthian era (so W. B. HENNING, Zoroaster, 37 n. 4), i. e. September 14, A.D. 215 and records the erection of a tomb by Artabanus king of kings for his vassal the satrap of Susa, Khwāsak (I follow here the revised reading of the text given by W. B. HENNING, AM 2 [1952], 176). Thus in A.D. 215 the area about Charax Spasinou must still have been in the hands of Parthia's vassal kings, since access to this region from the east via Susa was controlled by an Arsacid governor. See also on this monument M. L. CARTER, AcIr 1 ser. 1 (1974), 174.

The last Characene king is identified as Abinergaos III by S. A. NODELMAN, Berytus 13.2 (1959/60), 119, and his fall is dated by N. to A.D. 222.

The port of Apologos is mentioned in no other source and thus raises some problems. We know that apart from Charax Spasinou itself the city of Forāt about eleven miles further down the river had become a prominent commercial centre; see Pliny, NH VI. 145 and the Palmyra inscription cited above (p. 841, n. 782); cf. S. A. NODELMAN, Berytus 13 (1959/60), 113—114, who suggests that Mithridates IV (A.D. 128—147?) moved the capital of the kingdom to Forāt. For the history of Forāt see J. HANSMAN, Iranica Antiqua 7 (1967), 24—27, 46—53, who locates the town at Maghloob. HANSMAN's study of the ancient topography of Characene and the ancient courses of the Tigris and Euphrates points the way to a possible solution to the problem of Apologos on the Euphrates in the 'Periplus'. HANSMAN has pointed out that the Shatt al-Arab was not in antiquity the common outlet of the Tigris and Euphrates, but only of the Euphrates, known to the Arabs as the Nahr el-Furāt. The city of Forāt thus took its name from the river, see J. HANSMAN, ibid., 49—51. Since Maghloob like Jebel Khayābir, the site of Charax Spasinou, was two miles from the ancient channel of the river, Apologos may have been the name of the actual riverside harbour of Forāt. But interpretations of the changes which the delta region underwent in Antiquity are still in a state of flux, see the recent study of C. E. LARSEN, The Mesopotamian Delta Region: A Reconstruction of Lees and Falcon, JAOS 95.1 (1975), 43—57.

[1362] The author of the 'Periplus', for example, fails to mention Gerrha in his brief description of the Persian Gulf; cf. c. 35 (= FRISK, p. 11.30—32 — p. 12.1—2). It is argued by some that, since the city is mentioned by Ptolemy, its absence in the 'Periplus' indicates a date after the geographer; so H. v. WISSMANN, Le Muséon 80 (1967), 498; F. ALTHEIM and R. STIEHL, Die Araber in der Alten Welt, 4.497. In the latter work a circular argument prevails. First it is said that the failure to mention Gerrha dates the 'Periplus' after Ptolemy, then the same passage in the 'Periplus' is used to provide a terminus ante quem for the destruction of Gerrha.

[1363] Alexander himself did not project such a campaign, nor may have even known of the existence of the Ganges (see the discussion of D. KIENAST, Alexander und der Ganges, Historia 14 [1965], 180—188). But Greek penetration into the Ganges Valley is suggested by Indian tradition, possibly in the time of Menander, see K. D. BAJPAI, The Mitra Coins of Northern India and the Problem of Puṣyamitra, INC 4.2 (1965), 132—133.

[1364] So, for example, the description of Chryse, Periplus c. 63 (= FRISK, p. 20.29—30 — p. 21.1—10). This lack of specific knowledge is compared with the much fuller information in Ptolemy by DIHLE, who draws from this chronological conclusions; see A. DIHLE, Umstrittene Daten, 30. This sort of argument is of little assistance against the advocates of a third century date.

[1365] See also below n. 1565 for a discussion of the historical information found in the 'Periplus', c. 63 (= FRISK, p. 21.6—7) about a native gold coinage.

[1366] Periplus c. 37 (= Frisk, p. 12.13—19): Μετὰ δὲ τὴν ʼΟμανιτικὴν χώραν ὁμοίως ἡ Παρσιδῶν παράκειται, βασιλείας ἑτέρας, καὶ κόλπος τῶν Τεράβδων λεγόμενος, οὗ κατὰ μέσον εἰς τὸν κόλπον ⟨ἄκρα⟩ παρατείνει. Καὶ παρ' αὐτὸν ποταμός ἐστιν, ἔχων εἰσαγωγὴν πλοίοις, καὶ μικρὸν ἐπὶ τοῦ στόματος ἐμπόριον ʽΩραία λεγόμενον καὶ κατὰ νώτου μεσόγειος πόλις, ἔχουσα ὁδὸν ἡμερῶν ἑπτὰ ἀπὸ θαλάσσης, ἐν ᾗ καὶ βασίλεια, ἡ λεγομένη ⟨* *⟩. Παρσιδῶν here is Müller's emendation accepted by Frisk, The MS has παρ' ὁδὸν and Maricq saw here a corruption of the name of a region *P'rt'n*, Παρα]δηνήν mentioned in line 4 of the Naqsh-i Rustam inscription (Syria 35 [1958], 307 = Idem, Classica et Orientalia [Paris 1965], 49); see J. Pirenne, JA 249 (1961), 254, who deduces a terminus ante quem of A.D. 225/230 from this; cf. F. Altheim and R. Stiehl, Geschichte der Hunnen 5.14—15, who argues that the area as far east as this kingdom of Paradene was conquered by Ardashir before A.D. 210; so also Idem, Die Araber in der Alten Welt, 1.41—42; 4.501—502. But conquests this far east in Carmania and Gedrosia play no role in the usual reconstructions of the early career of Ardashir I (see above n. 1361). Chaumont has recently treated the history of Gedrosia including Paradan, on the basis of SKZ and, in passing, rejected Pirenne's arguments, see M. L. Chaumont, AcIr 133—134, n. 234, 136—137. Ptolemy VI.21.4 places Παραδηνή more into Central Gedrosia and the Παρσιδαί on the coast; see now on the text I. Ronca, Ptolemaios Geographie 6, 9—21: Ostiran und Zentralasien, T. 1 (Rome 1971), 99. For the character and location of ports along the coast of Makran see B. Spooner, Notes on the Toponymy of the Persian Makran, in: C. E. Bosworth (ed.), Iran and Islam (Edinburgh 1971), 519.

[1367] So first V. Smith, The Indo-Parthian Dynasties, ZDMG 60 (1906), 65—66; also E. Herzfeld, AMI 4.2 (1932), 89—91; B. N. Mukherjee, An Agrippan Source, 218—219.

[1368] See analyses of these coins by L. Bachhofer, JAOS 61 (1941), 241; R. B. Whitehead, The Dynasty of the General Aspavarma, NC 6 ser. 4 (1944), 99—104; A. M. Simonetta, E&W n.s. 8 (1957), 48—51; D. W. MacDonald, The Dynasty of the Later Indo-Parthians, NC 7 ser. 5 (1965), 137—148 (who proposes the existence of a Gondophares II); A. M. Simonetta, The Indo-Parthian Coinage and its Significance in the Chronology of the Kushans, in: Proc. Dushanbe, 284—286 (who also suggests that there existed a Gondophares II); cf. slight but significant changes in Idem, La monetazione indo-partica ed il suo significate per la cronologia dei Kushana, RIN 73 (1971), 33—47. For the debasement of Indo-Parthian coins see D. W. MacDowall, Soter Megas, The King of Kings, The Kushana, JNSI 30 (1968), 38—39; B. N. Mukherjee, Some Observations on the Metrology of the Indo-Greek and Scytho-Parthian Coins, JNSI 32.2 (1970), 144—149. A similar conclusion is suggested by the number of overstruck coins which come from the period after the death of Gondophares; e. g. types of Pacores overstruck on coins of Soter Megas, types of Soter Megas overstruck on issues of Vima Kadphises, etc.

The best account of this era may be found in B. N. Mukherjee, An Agrippan Source, passim. But his effort to reconstruct the periods of Arsacid rule on the Indus on the basis of the fragments of the geographical commentary of Agrippa is misguided (pp. 4—26). Cf. Idem, The Location of the Mint of some Indo-Parthian Coins, JNSI 33 (1971), 110—111 arguing that Gondophares also ruled Seistan. For the possible locations of Minnagara, the Parthian capital (Periplus c. 38 = Frisk, p. 13.3) see N. M. Billimoria, Identification of Old Places in Ancient Sind, JSHS 1.3 (1935), 29—30 who notes that both the coastline and river course along this part of the coast have changed so much that the identification of the site of this city is virtually impossible.

[1369] The Acta of St. Thomas mention an Indian king Γουνδαφορος and his brother Γαδ whom the apostle met. For coins bearing the names of Gondophares and Guda see CCPM 1. pp. 155—156 nos. 72—74. For the date of the original Syriac version see P. Devos, Actes de Thomas et Actes de Paul, AnalBol 69 (1951), 119—130. The local cult of St. Thomas in Edessa was in existence since at least the third century, Idem, Égérie à Édesse, S. Thomas l'Apôtre, le roi Abgar, AnalBol 85 (1967), 381—392; cf. also D. Broadribb, Concerning the Hymn of the Soul, Milla wa-Milla 5 (1965), 41. The identification is accepted by many scholars: S. Levi, Notes sur les Indo-Scythes, JA 9 ser. 9 (1897), 27—41; E. Herzfeld, AMI 4.2 (1932), 106—109; B. N. Mukherjee, An Agrippan Source, 143, 195—197 n. 43; D. W. MacDowall, Proc. Dushanbe, 253; cf. A. S. Altekar, A Knotty Problem Connected with the Coinage of Azes, CPANS, ed. H. Ingholt (New York 1958), 48 (on relationship of Gondophares to Azes and Aspavarma).

[1370] The precise date of Gondophares' reign may be derived from a single inscription. The Takht-i-Bāhī inscription is dated in the year 103 of some era and year 26 of the reign of Gondophares. The era date has been variously understood. Some scholars have suggested a purely imaginary era based on some event in the 80's or 70's B.C., which yield dates for Gondophares early in the first century of our era: M. G. Pai, Chronology of Sakas, Pahlavas and Kushanas, JIH 14.3 (1935), 314—316, era of 72 B.C.; A. M. Simonetta, E&W n.s. 9 (1958), 170—171, 87—80 B.C., the annexation of Drangiana to the Parthian Empire; cf. his change of heart to an 'era of Maues' (another fictitious creation) of 60 B.C.: Idem, The Indo-Parthian Coinage and its Significance in the Chronology of the Kushans, in: Proc. Dushanbe, 287. To my mind the most likely solution is that the Takht-i-Bāhī inscription refers to the era of 58 B.C., thus yielding A.D. 19—46 for the reign of Gondophares; so also V. A. Smith, JRAS (1903), 40—41; J. F. Fleet, The Early Use of the Era of B.C. 58, JRAS (1907), 169—170; Idem, JRAS (1913), 1002—1003, 1010; E. Herzfeld, AMI 4.2 (1932), 96—101; L. Bachhofer, JAOS 61 (1941), 231; B. N. Mukherjee, An Agrippan Source, 89, 183—198.
The creation of totally fictive eras, which is often resorted to by those who find themselves uncomfortable with conclusions suggested by the evidence, is best viewed in the light of a remark by J. F. Fleet (JRAS [1913], 980) more than sixty years ago: " ... other (i. e. than the Vikrama and Saka) eras are nothing but a convenient dream, evoked under the stress of difficulties ... ".

[1371] Simonetta assigns less than fifty years to the coins of the last Indo-Parthians: A. M. Simonetta, Notes on the Parthian and Indo-Parthian Issues of the First Century B.C., Actes Congrès int. de numis. (Paris 1957), 2.113—114; Idem, E&W n.s. 9 (1958), 183; cf. D. W. MacDowall, NC 2 ser. 5 (1965), 141—142, who on the basis of the metrology of the copper tetradrachms suggests the following order: Gondophares, Abdagases, Orthagnes, Pacores; rejected by B. N. Mukherjee, An Agrippan Source, 141—143. MacDowall suggested that the fire-altar used as the reverse type of the copper coins of Arda-mitra was derived from the coins of Ardashir I, so D. W. MacDowall, NC 7 ser. 5 (1965), 146—147. The copper coins of Arda-mitra do appear to be directly influenced by the issues of Ardashir I and have been associated with Sasanian coins in a hoard; cf. publication of small hoard containing 5 Indo-Parthian coins (4 Pacores, 1 Gondophares), 3 of Arda-mitra and 2 copper tdrs. of Shapur I; see M. Mitchner, NC 7 ser. 9 (1969), 301—304, who suggests a third century date for Arda-mitra. Cf. also B. N. Mukherjee, An Agrippan Source, 235—237.
At sites which were continuously occupied from the Indo-Greek through the Indo-Parthian and Kuṣāṇa period it is clear that the extension of Indo-Parthian chronology by more than a century, as necessitated by the theories of Pirenne and Göbl, is impossible, e. g., Shaikhan Dheri, A. H. Dani, Ancient Pakistan 2 (1965/66), 17—214. J. Pirenne, of course, ignores all this, see J. Pirenne, in: M. Mollat (ed.), Sociétés, 116 (the meaning of her statement that Minnagara is a Kuṣāṇa name in the light of 'Periplus' c. 41, which describes the town as the capital of Mambanus, is unclear to me).

[1372] For the chronology of the Kuṣāṇas see above pp. 639—640. Recently an overstrike of Kujula Kadphises (BMC, Greek and Scythic Kings, pl. XV.4 var.) on a coin of Gondophares (ibid., pl. XXII.11) has been published; see F. Widemann, Une surfrappe de Gondophares sur Hermaios et une autre de Kozoulo Kadphises sur Gondophares qui apportent deux jalons numismatiques à la chronologie entre les Indo-Grecs et le début de l'empire Kouchan, BSFN 27.1 (1972), 148—151. But cf. the observations on the significance of overstrikes in this region in R. Burn, Review of W. W. Tarn, The Greeks in Bactria and India (Cambridge 1938), JRAS (1941), 65—66, and R. B. Whitehead, Notes on the Indo-Greeks, NC 6 ser. 7 (1947), 32; cf. L. LACROIX, La monnaie grecque et les problèmes de la circulation monétaire, BARB 5 ser. 55.5 (1969), 180.

[1373] See the works cited above n. 1343.

[1374] See above pp. 631—632.

[1375] See above n. 1355.

[1376] The most detailed catalogue of Roman coin finds still remains E. THURSTON, Madras Government Museum Coins: Roman, Indo-Portugese and Ceylon, Cat. 2, 2nd ed. (Madras 1894). This work is now very rare in this country but still remains absolutely fundamental, although it contains a number of mistaken attributions. The best of the early studies of Roman coins found in India is R. SEWELL, Roman Coins found in India, JRAS (1904), 591—637. The collection of material by SEWELL is based on much nineteenth century documentation (e. g. newspaper accounts, missionary publications, etc.) which today is largely inaccessible. The standard collection of Roman coin hoards is R. E. M. WHEELER, in: Aspects of Archaeology, 375—380. The list published by M. SESHADRI, Roman Contacts with South India, Archaeology 19.3 (1966), 246—247 duplicates that of WHEELER (cf. P. M. FRASER, Ptolemaic Alexandria, 2.317 n. 416, who assumes that it supplements that of WHEELER). A new list of hoards was published by P. L. GUPTA, Roman Coins from Andhra Pradesh, Andhra Pradesh Govt. Museum Series no. 110 (Hyderabad 1965), 41—46. This list is, however, by the author's own admission based primarily on R. E. M. WHEELER, AI 2 (1946), 116—121, which was replaced and corrected by WHEELER's publication cited above (apparently unknown to GUPTA). Most of the comments which follow are based on an unpublished paper prepared by me for the American Numismatic Society summer seminar, 1975: Roman Coins Found in India (pp. 90—213 contain a catalogue of all the known finds of Roman coins on the Indian subcontinent modelled on the format used in: Die Fundmünzen der römischen Zeit in Deutschland). I wish to take this opportunity to express my gratitude to Dr. M. THOMPSON, Curator of Greek Coins at the American Numismatic Society Museum, Dr. N. M. WAGGONER, Associate Curator of Greek Coins, Dr. M. L. BATES, Associate Curator of Islamic Coins and particularly to Dr. W. E. METCALF, Associate Curator of Roman and Byzantine Coins for their advice, assistance and encouragement both during my attendance at the summer seminar in 1975 and on subsequent visits.
In the following pages I shall refer to hoards by the numbers in WHEELER's second collection (W. 1, etc.) and by the numbers in GUPTA's publication (G. 1, etc.).

[1377] There follows a partial list of discoveries published since 1949: (1) A hoard of 39 *denarii* (11 of Augustus, 27 of Tiberius — the latest A.D. 17) found in 1952 at Nasthulapur in Hyderabad State together with 8 silver punch-marked coins. This is one of the few hoards found in the Deccan (cf. W. 58); P. L. GUPTA, Nasthulapur Hoard of Silver Roman and Punch-Marked Coins, JNSI 19.2 (1957), 1—4 (3 plates). (2) A hoard of 256 *denarii* of Augustus and Tiberius at Bangalore in Mysore State; M. SESHADRI, Archaeology 19.3 (1966), 245. (3) "A great find of gold coins of Constantine, Gordian, etc. in beautiful preservation", found at Bamanghati, Singbhum district, Bihar. It is uncertain if this is the same as W. 1, since the date of the finds is considerably different; cf. P. L. GUPTA, Graeco-Roman Finds from Bengal, IAC 8.4 (1960), 389. (4) Published information is now available for W. 57 = G. 28. The hoard includes 12 *aurei* in very good condition (Tiberius, 8; Claudius, 2; Nero, 1; Trajan, 1), 71 very worn *denarii* (Republic, 3; Triumvirs, 2; Augustus, 48; Tiberius, 6; Claudius, 6; Nero, 3; and 3 unassignable) and 34 Indian silver punch-marked coins; see N. G. UNNITHAN, Eyyal Hoard of Silver Punch-marked and Roman Coins, JNSI 25.1 (1963), 22—28 for the punch-marked coins and P. L. GUPTA, The Early Coins from Kerala, Kerala State Dept. of Archaeology ser. no. 1 (Trivandrum 1966), 62—67, 76—83. (5) An *aureus* of Septimius Severus from Bilaspur Dist., Madhya Pradesh. B. JAIN, Inventory of the Hoards and Finds of Coins and Seals from Madhya Pradesh, NSI, NNM no. 5 (1957), 23 (nos. 5—8 are derived from this publication which is based on the Treasure Trove Reports of

Madhya Pradesh and the manuscript catalogue of the Central Museum, Nagpur. The attributions of coins to certain Roman emperors are in part my own, based on my unscrambling of this publication's peculiar orthography, e. g. "issues of Hardin, Seotemius, Serverus and Commodus" [sic!]). (6) 3 *aurei* of Hadrian, Septimius Severus and Commodus from Bilaspur Dist., Madhya Pradesh; B. JAIN, ibid., 23. (7) 2 *aurei*, one of Commodus, the other "a Roman forgery" (?) from Sanpewada, Bhandara Dist., B. JAIN, ibid., 23. (8) 2 *aurei* from Tadali, Bhandara Dist., — no further information given, B. JAIN, ibid., 23. (9) an *aureus* of Commodus was found together with an imitation *aureus* of Commodus at Chakerbedha in 1942; see T. G. ARAVAMUTHAN, The Chakerbedha Find of Two Aurei, JNSI 7 (1945), 6—10. Further new finds are noted below. A search through the papers of the Madras government from early in this century has produced several more individual coins which WHEELER missed. I have also had access to information about one unpublished recent find of *denarii* and at least one of *aurei*. It is also worth noting that a significant number of coins attributed to certain emperors in the early literature, were, upon investigation, found to be incorrectly identified. Both GUPTA and WHEELER accepted (unknowingly) some of these errors and this serves to explain why my descriptions of some of the hoards in the notes below differ from theirs.

[1378] The number 3,491 given by J. I. MILLER, Spice Trade, 237 for his period I is approximately 1,800 too few and was out of date at the time the book appeared.

[1379] This hoard is published by P. L. GUPTA, Roman Coins, 63—73, 80—126 (catalogue of 1531 *denarii* or fragments thereof and their weights), pls. I—XXIV.

[1380] For example, the Pudukota hoard of 1898 containing 499 *aurei*: G. F. HILL, Roman Aurei from Pudukota, South India, NC 3 ser. 18 (1898), 304—320; the Kaliyamputtur hoard of 1856 containing 63 *aurei*: E. THURSTON, MGMCC, 2^2.20—21; the Kottayam hoard which began to appear on the market in 1848/49 was possibly the largest find of *aurei* ever known in South India: approximately 200 were identified, but only 62 were published in detail: Capt. DRURY, Remarks on some Lately-Discovered Roman Gold Coins, JASB 20 (1851), 371—387 and Bishop R. CALDWELL, A Description of the Roman Imperial Coins Found near Calicut on the Malabar Coast and now in the Possession of his Highness the Raja of Travancore (Trivandrum 1851).

[1381] Examples of such excavated finds are five *denarii* from Chandravalli, see R. E. M. WHEELER, Brahmagiri and Chandravalli 1947: Megalithic and other Cultures in the Chitaldrug District, Mysore State, AI 4 (1947/48), 200, 290; at Yeleswaram an *aureus* of Septimius Severus was found in Period II, see IAR 1962—63, p. 2 and A. W. KHAN, A Monograph on Yeleswaram Excavations (Hyderabad 1963), 21, 55; at Velliyan-Irruppu in Madhya Pradesh a Roman bronze coin was excavated, see IAR 1961—62, p. 27, pl. XLV.B; at Peddabankur in Andhra Pradesh, a *denarius* of Augustus was found in Period II.B of the site, IAR 1968—69, p. 2; at Nagarjunakonda excavations have yielded a few lead coins and an *aureus* of Hadrian, ASI AnRep 1936—37, 61; Report on the Administration of the Madras Presidency for the year 1936—37 (Madras 1938), 190 and IAR 1956—1957, p. 38, pl. LX.c, d; cf. I. K. SHARMA, Vijayapuri — the Capital of Ikṣvakus of Nāgārjunakonda, IHQ 38.4 (1962), 278 who mentions other *aurei* but gives no details; in the excavations at Kaveripattinam an otherwise unidentified Roman coin was found, S. R. RAO, Kāvēripattinam Excavations, TASSI 7 (1962—65), 163.

[1382] See, for example, the Kottayam hoard of *aurei*. The various reports about how the hoard was found agree in stating that the coins came to light when either a hillside or a stream-bed was being panned for gold dust. The find first appeared when some natives took a few coins to Calicut to sell in the bazaar. Local jewellers quickly purchased these and soon considerable numbers of coins were sold and melted down. At first the site of the find was kept a secret, but eventually word of the discovery leaked out to authorities. The Rajah of Travancore purchased 80 or 90 *aurei* and the British Resident at Travancore, General CULLEN, even more. More than a year after the initial find Capt. DRURY notes that further *aurei* could still be purchased from natives in the area;

see literature cited above n. 1380. Modern Indian treasure trove procedure tends in fact to encourage hoard dispersal; see P. L. GUPTA, Treasure Trove Laws in India — a Review, JNSI 23 (1961), 137—151.

[1383] Frequently our only notice of a find comes from the enquiries made by British officers or administrators stationed in various regions. Such factors are important, since most of our information about Roman coin finds comes from the nineteenth century.

[1384] Such a fate almost befell the Treasure of the Oxus; see R. B. BARNETT, The Art of Bactria and the Treasure of the Oxus, Iranica Antiqua 8 (1968), 34.

[1385] See discussion above pp. 631—632.

[1386] For example, 20 clay *bullae* excavated at Koṇḍāpur imitated from the seated-figure *denarii* of Tiberius, see R. E. M. WHEELER, in: Aspects of Archaeology, 351 & pl. XX, and G. YAZDANI, Excavations at Kondapur, an Andhra town (ca. 200 B.C. to 200 A.D.), ABORI 22 (1941), 179—180, pl. XIII.6; 2 clay *bullae*, 1 imitating the same reverse type of Tiberius as above from Chandravalli: Excavations at Chandravalli (Mysore State), Suppl. Annual Report of the Mysore Arch. Dept. for the year 1929 (1931), 29; 3 clay *bullae* at Sisupalgarh, B. LAL, Sisupalgarh 1948: An Early Historical Fort in Eastern India, AI 5 (1949), 101, pl. L.B; 5 terracotta and 2 silver *bullae* were found in the excavations at Ujjain, V. S. WAKANKAR, Graeco-Roman Bullae from Ujjain, JNSI 32 (1970), 201—202, pls. XI.7—8; clay *bullae* which still remain unpublished were found at Kosam, Kolhapur and Brahmapur, see B. LAL, AI 5 (1949), 102. It has been suggested that the amulets worn by small figurines of nude boys found at various Indian sites of this period (e.g. Arikamedu and Chebrola) are in fact such imitation *bullae*, so E. LYONS, Two Dvaravati Figurines, JSS 61.1 (1973), 197—198.

[1387] Ornamental imitations of Kuṣāṇa coins, although not as numerous as those of Roman coins, did exist. A gold talisman from Bodha-Gaya with the obverse of a coin of Huviṣka on both sides: A. CUNNINGHAM, Mahabodhi, pl. XXII.19; a gold talisman imitating both the obverse and the reverse of a coin of Huviṣka has been found at Sadargalli, A. S. ALTEKAR, A Golden Amulet Imitating a Coin of Huviska, JNSI 20.1 (1958), 1—3.

[1388] For example, the *aureus* of Commodus and the imitation of an *aureus* of the same emperor found at Chakerbedha were both pierced for suspension, see T. G. ARAVAMUTHAN, JNSI 7 (1945), 6—10, pl. II.2; in 1885 five *aurei* were found set in an ornamental armband, see A. F. R. HOERNLE, Report on an Ornament of Ancient Gold Coins, PASB 53 (1886), 86—89; several of the *aurei* in the 1889 Vinukonda find had been perforated, see E. THURSTON, On a Recent Discovery of Roman Coins in Southern India, NC 3 ser. 9 (1889), 325—328; IDEM, MGMCC, 2^2.22—24. Since gold was preferred as jewellery, the same treatment was seldom accorded to native Indian silver coins. I know of a single very worn silver punch-marked coin from a hoard at Basarh which had a small hole in it, see P. L. GUPTA, Punch-Marked Coins from Vaiśālī, INC 2.1 (1961), 13, pl. 1. For Kuṣāṇa gold coins treated in this way see the treasure found at Tordher published by J. MARSHALL, Buddhist Gold Jewellery, ASI AnRep 1902—1903 (Calcutta 1904), 188—189: no. 15 is a pendant made from a gold coin of Huviṣka: no. 14 is a finger ring with a gold coin of Vasudeva soldered on, and no. 13 is a gold coin of Ardashir on a pendant. Gold amulets imitating Kuṣāṇa coins have been found at both Patna and Bodha-Gaya, P. L. GUPTA, Gold Amulets and the Kushana History, JNSI 21.2 (1959), 188—190.

[1389] For the use of *dīnāra* in inscriptions, where it came to denote any coin, gold, silver, or copper, see R. CHOUDHARY, Some Technical Numismatic Terms as Gleaned Through Inscriptions, INC 2.1 (1961), 156—157; V. S. AGRAWALA, Coin Data in the Divyāvadāna, INC 3.2 (1964), 144; L. GOPAL, Coins in the Epigraphic and Literary Records of Northern India in the Early Medieval Period, JNSI 25 (1963), 1,14—15; for *dīnāra* used in inscriptions to describe Gupta gold coins, see B. B. DE, Epigraphic Accounts of the Numismatic History of Bengal, in: D. C. SIRCAR (ed.), Coins, 142—144; for the use of *dīnāra* in the Prakrit Angavijjā see V. S. AGRAWALA, Coin Names in the Angavijjā, JNSI 19.1 (1957), 28.

[1390] See above pp. 630—631.

[1391] Seven *denarii*, six identifiably from the Republic, were found by Lt. COURT in a tope at Manikyala. All of the coins were well worn and can be identified only from line drawings published by COURT and PRINSEP. The latter, basing himself on the Sasanian coins found in other nearby topes, proposed a fourth century date for the find and attributed one of the Roman coins to Constantine. This drew the immediate criticism of the young ALEXANDER CUNNINGHAM, who attributed all of the coins to the Republic, the Triumvirs, or Augustus. All of the previous identifications were corrected by R. ROCHETTE. Six of the coins are Republican or Triumviral and can be identified as follows: RRC I.319.1; 409.2; 480.6; 486.1; 515.2; and 533.2. See Lt. COURT, Further Information Regarding the Topes or Tumuli at Manikyala, JASB 3 (1834), 558—559; J. PRINSEP, Description of the Coins discovered in a Second Tope at Manikyala, JASB 3 (1834), 564—565, pl. XXXIV; A. CUNNINGHAM, Correction of a Mistake Regarding Some of the Roman Coins Found in the Tope at Manikyala Opened by M. Court, JASB 3 (1834), 635—637; R. ROCHETTE, Deuxième supplement à la notice sur quelques médailles grecques inédites de rois de la Bactriane et de l'Inde, JS (1836), 70—75; Gen. COURT, Further Information on the Topes of Manikyala, in: J. PRINSEP, Essays on Indian Antiquities, Historic, Numismatic and Palaeographic (London 1858), 148—150. See also above n. 450 for the Pakli hoard.

[1392] The only exception is the Eyyal hoard, see above n. 1377; discussed below n. 1408. *Denarii* later than the reign of Nero, do occur among coins reportedly found in India and now in museum collections. See, for example, the India Office gift to the British Museum in 1882 which contained 3 *denarii* of Vespasian (BMCRE, II, no. 182, 201, 236), 2 of Domitian (ibid., nos. 165, 172), one of Trajan (BMCRE, III, no. 407), 2 of Hadrian (ibid., nos. 677, 878), etc.

[1393] So, for example, W. 43 = G. 14 (Vellalur find of 1932 — 123 *denarii* of Augustus).

[1394] W. 15 = G. 7 — 500 *denarii* of Augustus and Tiberius found at Karur in 1878; W. 9 — 1390 *denarii* of Augustus and Tiberius found at Budinatham in 1946; the Bangalore hoard of 256 *denarii* of Augustus and Tiberius, see M. SESHADRI, Archaeology 19.3 (1966), 245; W. 36 = G. 11 — a hoard found in 1800 in Pollachi, see F. BUCHANAN, Journey through Madras, Canara and Malabar (1807), 2.318—319; M. J. WALHOUSE, Bronze Antiquities in India, IA 4 (1875), 302.

[1395] For example, see the following hoards: W. 42 = G. 13, the 1891 find from Vellalur, contained 189 *denarii* of Augustus, 330 of Tiberius, 8 of Caligula, 18 of Claudius, and 3 of Nero; the Akkenpalli find of 1959 contained 698 *denarii* of Augustus, 24 imitations of the same, 740 *denarii* of Tiberius, 31 imitations of the same, 2 *denarii* of Caligula, 11 of Claudius, and a single coin of Nero (for a possible second *denarius* of Nero in this hoard see below n. 1398), see P. L. GUPTA, Roman Coins, 63—73, 80—126, pls. I.1—XXIV.1508; cf. also review by D. W. MACDOWALL, NC 7 ser. 10 (1970), 340—341.

[1396] The published finds from the south contain only 7 *denarii* of Nero and 54 of Caligula and Claudius. The unpublished finds fit the same pattern. In 1974 a hoard of 73 *denarii* made its way into the antiquities market; the coins were said to have been found in the Coimbatore District. 72 were *denarii* of Augustus and Tiberius, 1 was a *denarius* of Caligula.

[1397] In W. 42 = G. 13, the Vellalur hoard of 1891, 187 of 189 *denarii* of Augustus were of the type BMCRE I.519ff. and 329 of 330 *denarii* of Tiberius were of the type BMCRE I.34ff., see descriptions in E. THURSTON, A Further Discovery of Roman Coins in Southern India, NC 3 ser. 11 (1891), 199—202, and IDEM, MGMCC, 2^2.24, 26; in: W. 44, the Vellalur hoard of 1842, 134 of 135 *denarii* of Augustus and all 378 of Tiberius fit into this pattern: three contemporary reports of this hoard exist, by Sir Walter Eliot, M. J. Walhouse, a civil servant, and an unknown correspondant, possibly W. Garrow. All the reports differ both as to the total number of coins and the number of pieces attributed to each emperor. A detailed examination of the reports has led me to conclude that the descriptions of Eliot and Walhouse are substantially correct and these are cited here; see W. Eliot, MJL&S 13 (1844), 212—214; M. J. Walhouse, Aqua Marina Gems, ancient and modern, IA 5 (1876), 239, and J. Y. Akerman, Discovery of Silver Denarii at Coimbetoor (sic), NC 1 ser. 6 (1843/44), 111—112, 160—162; in the unpublished Coimbatore hoard of 1974 (see above n. 1396) the 72 *denarii* of Augustus and Tiberius were exclusively of these two types; in the Nasthulapur hoard of 1952 all 12 of the genuine *denarii* of Augustus are of the same type and 24 of the 25 genuine *denarii* of Tiberius fit the same pattern, see P. L. Gupta, Nasthulapur Hoard of Silver Roman and Punch-marked Coins, JNSI 19 (1957), 1—2, pls. I.1—20, II.1—16, III.1—3, and Idem, Roman Coins, 73—74, 127—128, pls. XXIV.1—15, XXV.16—38, XXVI.39; in the Akkenpalli hoard 695 of 698 coins of Augustus fit the pattern, as do 739 of 740 *denarii* of Tiberius.

[1398] In W. 42 = G. 13, the Vellalur find of 1891, two *denarii* of Nero are from A.D. 54/55 (BMCRE I.6) and one from 55 (ibid., 8); the Akkenpalli hoard contained a *denarius* of Nero of A.D. 55 (BMCRE I.8 — the coin is incorrectly attributed to Claudius by Gupta). Gupta noted that the latest two *denarii* in the hoard may be issues of Nero, but could not identify them with certainty. One of these is illustrated in Pl. XXIV. 1508. The laureate head r. on the obv. bears little resemblance to the thick-set portrait of Nero, but this may be due to the chisel mark which obscures much of the detail. The reverse is almost totally obscured, but a seated figure l. holds a long spear or sceptre in its upraised left hand. Traces of six letters remain to the right of the figure and it is possible that the legend should read CVSTOS, but this cannot be confirmed on the photograph. The coin could thus be of the IVPPITER CVSTOS type of A.D. 64/68, but the weight, 3.59 grs., would be unusually heavy for a badly worn piece from this time. Far more likely is the possibility that the coin is another local imitation of the popular type of Tiberius.
The Eyyal hoard contained a *denarius* of Nero from A.D. 64/68 (BMCRE, I.90f.), but this hoard has a number of peculiar features, see below n. 1408.

[1399] S. Bolin, State and Currency in the Roman Empire (Stockholm 1958). The best and most critical review of this controversial book is T. V. Buttrey, AJA 65 (1961), 84—87.

[1400] S. Bolin, State and Currency, 64—65.

[1401] Ibid., 65—77.

[1402] D. W. MacDowall and N. G. Wilson, NC 7 ser. 10 (1970), 234—235, 239.

[1403] Periplus c. 49 (= Frisk, p. 16.23—24): Προχωρεῖ δὲ εἰς τὸ ἐμπόριον (Βαρύγαζα) . . . δηνάριον χρυσοῦν καὶ ἀργυροῦν, ἔχον ἀλλαγὴν καὶ ἐπικέρδειάν τινα πρὸς τὸ ἐντόπιον νόμισμα.

[1404] So D. W. MacDowall and N. G. Wilson, NC 7 ser. 10 (1970), 235, 239.

[1405] See S. Bolin, State and Currency, 70—71.

[1406] See the major hoards cited in the notes above. For the *aurei* see W. 67 = G. 21, the Pudukota hoard of 1898, which contained 499 *aurei* as follows: Augustus, 42; Tiberius, 167; Caligula, 14; Claudius, 159; Nero, 114; and Vespasian, 3 (the latter are of three types BMCRE, II.377f., 60, and 271, the latest from A.D. 75/79). Slightly earlier is W. 21 = G. 27 from Kottayam; none of the c. 200 coins identified is later than A.D. 63/64 except a coin listed as no. 26 by Drury. This latter piece is an *aureus* of Caracalla (BMCRE, V.148), which is clearly intrusive and it must have been purchased by General Cullen in the same area, but was not part of the hoard; see literature above n. 1380.

[1407] The total of *aurei* imported in the Flavian period and later exceeds that from the time of Augustus to Nero and if we take c. 63/64, when the *denarii* leave off, as our turning point, it becomes clear that the total monetary value imported in the latter period exceeds that imported in the former period. PIRENNE's statement that the amount of gold imported into India after Nero is greatly reduced indicates that she did not examine WHEELER's list of coin hoards; see J. PIRENNE, in: M. MOLLAT (ed.), Sociétés, 114 (her statement about *«la dévaluation de la monnaie»* of Nero is a clear indication of the author's all too obvious ignorance of the most basic facts in the subject with which she is dealing).
One cannot totally reject the possibility that the change from silver to gold came about as a result of a change in the relative value of the two metals either in India or the Roman Empire. Evidence for such a change has been found in a famous document, P. Bad. I.37 (A.D. 113), which refers to a sudden drop in the price of gold on the Alexandrian exchange markets (see text and further bibliography below n. 1463). It was suggested by HEICHELHEIM that this decrease in the relative price of gold came about as the result of Trajan's conquest of Dacia and the new production of the Dacian mines. So F. HEICHELHEIM, Zu Pap. Bad. 37, ein Beitrag zur römischen Geldgeschichte unter Trajan, Klio 25 (1932), 129—131. (For gold as a motive in Trajan's conquest of Dacia see J. CARCOPINO, Les richesses des Daces et le redressement de l'Empire Romain sous Trajan, Dacia 1 [1924], 28—34.) For a similar explanation of the drop in the price of gold see L. C. WEST and A. C. JOHNSON, Currency in Roman and Byzantine Egypt, 90—92. Such a sudden drop in gold prices due to the discovery of a new source of supply is not unprecedented. Polybius records that when the Italians joined the natives in exploiting the newly discovered gold mines of Taurisci near Aquileia, παραχρῆμα τὸ χρυσίον εὐωνότερον γενέσθαι τῷ τρίτῳ μέρει καθ' ὅλην τὴν Ἰταλίαν (Polybius XXXIV.10 = Strabo IV.6.12). For changes in the relative value of gold and silver in the fourth and fifth centuries see R. RÉMONDON, À propos du papyrus d'Antinoé no. 38, CE 32 (1957), 138—140. Cf. R. N. FRYE, BAIPU 1 (1969), 37 who states that the high value of gold in India (1 : 13 or 1 : 14) was probably a factor favouring the export of gold from Rome to India.

[1408] Mentioned in S. BOLIN, State and Currency, 71. For the hoard see N. G. UNNITHAN, JNSI 25.1 (1963), 22—28, and P. L. GUPTA, The Early Coins from Kerala, 65—67, 76—83.

[1409] The punch-marked coins in the hoard were published by N. G. UNNITHAN, JNSI 25.1 (1963), 22—28. See below for circulation of Roman coins in India.

[1410] S. BOLIN, Fynden av romerska mynt i det fria Germanien (Lund 1926).

[1411] For imperial date see S. BOLIN, State and Currency, 64—65, basing himself on the fibulae found with the coins. For first century B.C. date see Z. NEMEŠKALOVÁ-JIROUDKOVÁ, Libčevesky poklad. Nástin jeho historického významu, NumListy 20.2 (1965), 39—40.

[1412] On the Jutland peninsula Republican *denarii* are rare and most of the finds consist of coins of the Flavian and Antonine period. Particularly difficult to fit into BOLIN's analysis are the Ginderup and Øvrige finds, see J. BALLING, De Romerske Møntfund fra Jylland, NNÅ (1962), 5—58, 71—74.

[1413] A complete corpus of Roman coins found in Germany is now in the process of production: H. GEBHART and K. KRAFT (eds.), Die Fundmünzen der römischen Zeit in Deutschland, cited hereafter as FMRA. See the general remarks in K. KRAFT, H. GEBHART, H. KÜTHMANN, P. R. FRANKE and K. CHRIST, Bemerkungen zur kritischen Neuaufnahme der Fundmünzen der römischen Zeit in Deutschland, JNG 7 (1956), 9—71.

[1414] J. WIELOWIEJSKI, Wptyw Reform Monetarnych w Latach 63—215 na Przyjmowanie Srebrnych Pieniedzy Rzymskich Przez Ludy Polnocne, WN 13 (1969), 1—18, who attacks BOLIN's theses in detail, in part on the basis of more recent finds (esp. pp. 6—11).

[1415] For warfare as the major cause of hoarding see A. Blanchet, Les rapports entre les dépots monétaires et les événements militaires, politiques et économiques, RN 39 (1936), 3—69, 205—269; especially the clear statement of this principle in B. Thordeman, The Lohe Hoard, NC 6 ser. 8 (1948), 192—197; also S. P. Noe, Hoard Evidence and its Importance, Hesperia Suppl. 8 (1949), 239; J. Meyshan, Der Einfluß der griechischen und römischen Münzprägung auf die Gestaltung der antiken jüdischen Münzen, in: Congresso Inter. di Numismatica (1965), 428—429; M. Crawford, Coin Hoards and the Pattern of Violence in the Late Republic, PBSR 37 (1969), 76—81. For the same phenomenon in India see D. S. Sircar, Ancient Indian Coin Hoards, in: D. C. Sircar (ed.), Coins, 148—150. Religious and social factors played an important role in encouraging the hoarding of precious metals in India, see A. H. Lloyd, Hoarding of Precious Metals in India, JNSI 23 (1961), 115—127; R. C. Majumdar, Hoards of Coins, ibid., 128—132.

[1416] The standard collection of metrological statistics remains L. C. West, Gold and Silver Coin Standards in the Roman Empire, NNM 94 (New York 1941). Unfortunately in the absence of any substantial number of published museum catalogues with reliable weights West relied on rather diverse material drawn from various sources, including reports of hoard finds. For the figures cited in this note and in the notes that follow I rely on my own frequency tables for the period from Augustus to Hadrian. These are founded on a much larger and more reliable statistical base than the figures given by West. In the construction of these tables I have relied only on the published weights given in museum catalogues and have eliminated all coins described as worn, plated or broken. Since the publication of West's work the number of museum catalogues has considerably increased and the following have been used: H. Mattingly and R. A. G. Carson (eds.), Coins of the Roman Empire in the British Museum (London 1923ff.), cited here as BMCRE; A. S. Robertson, Roman Imperial Coins in the Hunter Coin Cabinet, University of Glasgow (Glasgow 1962ff.), 3 volumes to date — cited as HCC; G. Mazzini, Monete imperiali romani (Milan 1957/58); G. Nicodemi, Le raccolte numismatiche del Castello Sforzesco, Le monete dell'Impero romano, 2 vols. (Milan 1928/40); C. H. V. Sutherland and C. M. Kraay, Catalogue of Coins of the Roman Empire in the Ashmolean Museum, Pt. 1: Augustus (c. 31 B.C.—A.D. 14) (Oxford 1975); G. G. Belloni, Le monete di Traiano: Catalogo del Civico Gabinetto Numismatico Museo Archeologico di Milano (Milan 1973). For Julio-Claudian *aurei* I have also used M. v. Bahrfeldt, Die römische Goldmünzprägung während der Republik und unter Augustus (Halle 1923). The latter work has been treated with caution: only coins described as 'fine' or better have been used and all coins (to the best of my knowledge) which subsequently appeared in any of the above published catalogues were excluded. In addition to the above I have also weighed all of the unpublished *denarii* and *aurei* in the large ANS collection.

For the methodological problems involved, e. g. such as coin wear, etc., see the studies of A. S. Hemmy, The Weigh-Standards of Ancient Greece and Persia, Iraq 5 (1938), 65—81; S. Suchodolski, Le Poids des monnaies de Charlemagne émises après la réforme, in: P. Berghaus and G. Hatz (eds.), Dona Numismatica: Festschrift W. Havernick (Hamburg 1965), 43—50; P. Grierson, Coin Wear and the Frequency Table, NC 7 ser. 3 (1963), i—xvi, and K. F. Morrison with H. Granthal, Carolingian Coinage, NNM 158 (New York 1967), 35—46. In what follows this system of abbreviations will be used: upper quartile weight = q; upper decile weight = d; median weight = m; and the number in () gives the total number of coins on which the frequency table is based. Thus Nero pre-reform is d = 3.67 grs., q = 3.63 grs., m = 3.54 grs. (41); post reform: d = 3.48, q = 3.38, m = 3.25 (81).

[1417] Many of the early hoards are described as being in fresh from the mint condition, e. g. the Karur hoard of c. 500 *denarii* of Augustus and Tiberius, E. Thurston, MGMCC 2^2. 21—22; the 1974 hoard of 73 *denarii* found in Coimbatore (above n. 1396). For the problem of coin wear and the length of circulation see the previous note and P.-H. Mitard, Les monnaies comme éléments de datation d'un site archéologique. Importance du degré d'usure, BSFN 18.3 (March 1963), 233—234 (on Augustan coins from Pompeii).

[1418] See the evidence assembled in M. Laloux, La circulation des monnaies d'électrum de Cyzique, RBN 117 (1971), 31—69. Finds of such coins in cities on the North shore of the Black Sea have been made at Orlovka (73 staters) and a number of other sites, see list, in: E. Schönert-Geiss, Torgovo Ekonomicheskie Sviazi Severnogo Prichernomor'ia s Gretsiei i ikh otrazhenie v Materiale Monetnykh Nakhodok (VI—I vv. do n.e.), VDI (1971), 30—31.

[1419] See R. Bogaert, Le cours du statère de Cyzique aux Ve et IVe siècles avant J.-C., AC 32 (1963), 91—92; cf. H. A. Das, Determination of Gold Content of Electrum Coins via Specific Gravity, Jaarboeck voor Munt en Penningkunde 49 (1962), 65—68; cf. R. Bogaert, Encore le cours du statère de Cyzique aux Ve et IVe siècles avant J.-C., AC 33 (1964), 121—128 and publication of results from neutron activation, J. P. Guépin, Le cours du Cyzicène, AC 36 (1965), 19—203; cf. R. Bogaert, Méthodes d'analyse et numismatique: le problème du Cyzicène III, AC 34 (1965), 204—213.

[1420] Tacitus, Germ. 5.3: *pecuniam probant veterem et diu notam serratos bigatosque*. See discussion in K. Regling, Römischer Denarfund von Fröndenberg, ZfN 29 (1912), 217 to 220; E. Norden, Die Germanische Urgeschichte in Tacitus Germania (Leipzig 1920, repr. Darmstadt 1974), 280—282; B. L. Ullman, Preference of the Ancient Germans for Old Money and the Serration of Roman Coins, PhQ 1 (1922), 311—317.

[1421] See evidence assembled by K. Regling, ZfN 29 (1912), 212—218.

[1422] It has been suggested that the preferred types were those Roman coins which the Indians first became acquainted with, but this is not supported by the evidence. After the Roman conquest of Egypt a very active sea-borne trade with India was underway by c. 20 B.C., yet the earliest issues of the Gaius and Lucius Caesar types at Lugdunum are considerably later (beginning c. 2 B.C.).

[1423] This conclusion is based on my specific gravity analyses of 65 *denarii* of Augustus and 36 of Tiberius in the cabinets of the ANS Museum.

[1424] The figures for the various Augustan mints are as follows: Rome, d = 3.99 grs., q = 3.91 grs., m = 3.80 grs. (359); Lugdunum d = 3.86 grs., q = 3.82 grs., m = 3.75 grs. (267); Spanish mints d = 3.88 grs., q = 3.83 grs., m = 3.75 grs. (460).

[1425] So R. E. M. Wheeler, in: Aspects of Archaeology, 361—365; B. Srivastava, Economic Significance of Roman Coins found in India, JNSI 26 (1964), 221—227 (contains a number of factual errors and false premises). But hoards like those frequently found in the Middle East in the Achaemenid period containing both coins and scrap metal are to my knowledge relatively rare in India, e. g. the Shamiawala hoard of 1920 containing 143 silver punch-marked coins, a broken silver vessel, silver ornaments and pellets: D. Prasad, Shamiawala (Bijnor Dist.) Hoard of Silver Punch-Marked Coins, JNSI 1 (1939), 1—2. In 1940 at Bamnālā, Nimār Dist., 21 Gupta coins were found together with a gold bar, D. B. Diskalkar, Bamnālā (Holkar State) Find of Twenty-One Gold Coins of the Gupta Dynasty, JNSI 5.2 (1943), 135—144. At Sultanganj, Bhagalpur Dist., in 1959 a pot containing a Kuṣāṇa and a Gupta gold coin and three gold ornaments was unearthed: INC 1.1/2 (1960), 86. The hoard of gold ornaments and stamped gold pieces from the Piprawhwa *stupa* (U.P.) probably comes from a period before the advent of gold coinage in India, M. Chandra and P. L. Gupta, Jewellery Moulds in Ancient India, BPWM 8 (1962—64), 12.

[1426] Cf. G. P. Hennequin, Problèmes théoriques et pratiques de la monnaie antique et médiévale, Annales Islamologiques 10 (1972), 10—11, 34—36, and R. S. Lopez, Moneta e monetieri nell'Italia barbarica, in: Moneta e Scambi nell'Alto Medioevo (Spoleto 1961), 68—70. Within the Roman Empire *denarii* circulated at a premium against uncoined bullion of equal weight; cf. the theories of S. Bolin, State and Currency, passim; Idem, Congrès int. de numismatique, Paris (1957), 2.577—588; cf. L. Brunetti, La nozione dello *Schlagabzug* e quella della percentuale dell'oscillazione ponderale nella dottrina numismatica, RIN 4 ser. 22 (1974), 163—164.

[1427] See tables in S. Bolin, State and Currency, 336—357. A considerable number of Augustan hoards have been published; see the list in M. H. Crawford, Roman Republican Coin Hoards (London 1969), 131—141.

[1428] For example, along the German *limes* eight sites occupied under Augustus yielded the following results (including hoards buried in the time of Augustus): total *denarii* = 395 of which 155 were Augustus, 48 Antony, and the rest Republican, see FMRD I.1.1249, I.7.7011, IV.2.2317, IV.4.4054, VI.5.5081, VI.6.6014, IV.1.1054, IV.1.1148; two sites from the reign of Tiberius (dating based on finds) yielded a total of 29 *denarii* of which 21 were Republican, 2 of Antony, 6 of Augustus, and none of Tiberius, see FMRD I.7.7044, 7182; at six Claudian sites 46 *denarii* were excavated, of which 27 were Republican, 10 of Antony, 6 of Augustus, 1 of Tiberius, 1 of Caligula, and 1 of Claudius, see FMRD I.7.7069, II.3.3069, 3086, III.2.2073, IV.2.2210, IV.1.1002. The pattern is similar in Sicily: a hoard of 30 *denarii* buried c. A.D. 15 contained 4 of Augustus and 3 of Tiberius; a hoard of 34 *denarii* buried c. A.D. 15 contained 6 of Augustus and 2 of Tiberius; both hoards are in the Palermo Museum, see A. T. Cutroni, Ripostigli monetali del Museo Nazionale di Palermo, AIIN 5/6 (1958/59), 188—194.

[1429] The quality of the eastern issues of Antony is not as poor as has sometimes been suspected, see R. Reece, Analyses of Some Denarii of the later Republic and Early Roman Empire, NC 7 ser. 4 (1964), 233—234: 873 and 851 (from chemical analysis); see also the list of analyses in M. Crawford, RRC II. p. 571.

[1430] See figures given above n. 1428. See in general H. W. Doppler, Der Münzfund aus den gallorömischen Tempeln auf Schönbühl (Augst), in: E. Schmid, L. Berger and R. Bürgin (eds.), Provincialia. Festschrift f. R. Laur-Belart (Basel 1968), 71—72.

[1431] On the absence of Julio-Claudian *denarii* from Near Eastern hoards see M. van Lessen, The Coinage Pattern of Palestine in the First and Second Centuries A.D., NCirc 79.6 (June 1971), 240—241. A significant exception here is the large silver hoard found at Isfiya on Mount Carmel: 3400 full-shekels, 1000 half shekels, all from Tyre, and 160 Augustan *denarii* buried c. A.D. 67; L. Kadman, Temple Dues and Currency in Ancient Palestine in the Light of Recently Discovered Coin Hoards, Congresso Internazionale di Numismatica, Roma (1965), 2.69—77; cf. D. Sperber, Numismatics and Halacha, INJ 2.1/2 (1964), 16—18. Cf. C. Roth, The Historical Implications of the Jewish Coinage of the First Revolt, IEJ 12.1 (1962), 34 who refers to the circulation of *denarii* in Judaea but cites no finds. *Denarii* do appear in considerable numbers in second century hoards from the region; e.g. N. Zuri, A Hoard of Bronze and Silver Coins from Ain Hanaziv, INB 3/4 (1962), 105—106; Idem, A Hoard of 257 Roman Silver Coins from Bet-Gobrin, INB 3/4 (1962), 106; cf. also V. Picozzi, Le monete nei Vangeli, QTNAC (1972), 79—81. An *aureus* of Tiberius (seated figure / PONTIF MAXIM) was recently found in a looted Nabataean tomb at Dhat-Ras; F. Zayadine, Une tombe nabatéenne près de Dhat-Ras, Syria 47 (1970), 127, fig. 10, 129, 131.

[1432] To the material collected by S. Bolin, State and Currency, 80—86 there should be added the following: in 1955, Regio I, insula XIII 11 *denarii*: 1 of Augustus; in 1957, Regio I, insula XIV, 482 *denarii*: 42 of Augustus, 1 of Tiberius; in 1955 Regio I, insula XVII, 78 *denarii*: 2 of Augustus, see E. Pozzi, Soprintendenza alle antichità della Campania, AIIN 5/6 (1958/59), 271—275; a hoard of 1959 from insula VII, Regio III, which contained 61 *aurei* (Caligula to Vespasian) and 49 *denarii* (of these 44 are Republican and Triumviral, 1 of Augustus, 1 of Nero and 2 of Vespasian), see E. Pozzi, Tesoretto di età Flavia da Pompei, AIIN 5/6 (1958/59), 211—222.

[1433] The specific gravity method is only accurate for objects of high gold or silver content; see E. R. Caley, Estimation of Composition of Ancient Metal Objects, Analytical Chemistry 24.4 (1952), 679—681; for specific gravity analysis of gold coins see W. A. Oddy and M. J. HUGHES, The Specific Gravity Method for the Analysis of Gold Coins, in: E. T. HALL and D. M. METCALF (eds.), Methods of Chemical and Metallurgical Investigation of Ancient Coinage (London 1972), 75—78; W. A. ODDY, The Analysis of Gold Coins — Comparison of Results obtained by non-destructive Methods, Archaeometry 14.1 (1972), 109—117.

[1434] Wet chemical analysis is the most accurate process for determining the fineness of silver coins. In the notes which follow I have used the published results from chemical analyses of *denarii* as well as results from various physical nondestructive analyses. For the methods and problems involved see J. CONDAMIN and M. PICON, Changes Suffered by Coins in the Course of Time and the Influence of these on the Results of Different Methods of Analysis, in: E. T. HALL and D. M. METCALF (eds.), Methods, 49—66; A. A. GORDUS, Neutron Activation Analysis of Coins and Coin-streaks, in: ibid., 127—148; L. COPE, Surface-silvered Ancient Coins, in: ibid., 261—278, and F. SCHWEIZER and A. M. FRIEDMAN, Comparison of Methods of Analysis of Silver and Gold in Silver Coins, Archaeometry 14.1 (1972), 103—107.

[1435] The following published analyses were used: J. HAMMER, Der Feingehalt der griechischen und römischen Münzen, ZfN 26 (1907/08), 1—144 (= HAMMER); R. REECE, Analyses of Some Denarii of the later Republic and Early Roman Empire, NC 7 ser. 4 (1964), 233—234 (= REECE); E. R. CALEY, Analysis of Ancient Metals (New York 1964) (= CALEY); H.-J. KELLNER and W. SPECHT, Feingehalt und Gewicht des römischen Denars, JNG 11 (1961), 43—51 (= KELLNER and SPECHT); L. H. COPE, The Metallurgical Analysis of Roman Imperial Silver and Aes Coinage, in: E. T. HALL and D. M. METCALF (eds.), Methods, 3—47 (= COPE); H. MATTINGLY, Coins of the Roman Empire in the British Museum, I., p. lvii (= BMCRE I). Results of specific gravity analysis of 65 *denarii* of Augustus: 65% of the coins had a fineness of 950 or better and 80% were above 900; for Tiberius 53% of the coins were above 950 and 74% above 900 (based on 36 *denarii*). Results of chemical and physical analyses for Augustus: 991, 990, 928 (HAMMER); 991, 954, 928 (KELLNER and SPECHT); for *denarii* of Tiberius: 990, 989, 981, 980, 978, 961 and 954 (HAMMER); 981, 980, 978, 961 and 954 (KELLNER and SPECHT). Cf. the overly optimistic view of L. H. COPE, Roman Imperial Silver Coinage Alloy Standards: The Evidence, NC 7 ser. 7 (1967), 107—114, 124—126, that the fineness of silver coins was carefully controlled.

[1436] Claudius: d = 3.83 grs., q = 3.74 grs., and m = 3,69 grs. (113); Nero pre-reform: d = 3.67, q = 3.63, m = 3.54 (41). Claudius, fineness by specific gravity: 52% above 950 and 74% above 900 (23 coins analysed); Nero pre-reform: only 3 out of 12 coins are above 950 and 5 above 900.

[1437] Nero post-reform: d = 3.48 grs., q = 3.38 grs., m = 3.25 grs.; specific gravity (26 coins analysed): 8% above 900, and most coins fall into the area from 900 to 800 but in this range specific gravity analysis begins to develop a considerable margin of error. Chemical analysis: 943, 910 (HAMMER); 807.2 (BMCRE I).

[1438] *Denarii* of Vespasian: d = 3.47 grs., q = 3.41 grs., m = 3.23 grs. (total = 582, including coins struck in the name of Titus and Domitian during Vespasian's life-time). *Denarii* of Titus: d = 3.49 grs., q = 3.37 grs., m = 3.24 grs. (total = 270, including coins struck in the name of Domitian in Titus' life-time). Specific gravity analysis was done on 81 *denarii* of Vespasian but the results are so low that a considerable margin of error is possible, no coins were above 900 in fineness. Results from chemical and spectrum analysis of the *denarii* of Vespasian: 886, 878, 792, 800, 881, 800 (HAMMER); 813 (REECE); 801 (CALEY); 864 (KELLNER and SPECHT); 952, 945, 869 (COPE). For Titus only a single example is available: 809 (KELLNER and SPECHT).

[1439] *Denarii* of Domitian: d = 3.51 grs., q = 3.42 grs., m = 3.31 grs. (total = 435). Results from chemical and spectographic analysis: 914, 925, 860, 924 (HAMMER); 924 (REECE); 895 (KELLNER and SPECHT); 854 (COPE). In part the fine reputation of Domitian's coinage among some modern authorities may be traced back to a stimulating paper of R. Syme, The Imperial Finances under Domitian, Nerva and Trajan, JRS 20 (1930), 55—70. Syme does not mention the coinage of Domitian and whatever one may think of his other arguments, it is clear now that the silver used to pay the increased salaries of the troops differed little in either weight or quality from the previous coinage of Vespasian and Titus or, for that matter, from the *denarii* of Trajan.

[1440] Cf. the mathematical equations suggested by Müller for determining on the basis of site finds the average time of circulation of Roman coins: J. W. Müller, Datierung des Römischen Theaters in Lenzberg durch die Münzfunde, RSN 47 (1968), 118—127. The hoards cited above n. 1428 and n. 1432 suggest that by the end of the reign of Nero *denarii* of Augustus were relatively rare and those of Tiberius almost non-existent.

[1441] The fineness of the *denarii* of Antony is comparable to those of the Flavian period but considerably below that of the silver issues of Augustus and Tiberius; see references above. The fineness of Republican *denarii* is better, in general above 950, see the figures collected in RCC II pp. 570—571; to which add the analysis of three further Republican *denarii* published by G. Fortina, M. Leoni and G. Martinetti, Indagini analitiche e metallografiche su denari romani de epoca repubblicana, Sibrium 11 (1971/72), 465—475.
The *denarii* of Marc Antony still play a prominent role in silver hoards of the late second century, see comments in H. Gebhart et al., Bemerkungen zur kritischen Neuaufnahme der Fundmünzen der römischen Zeit in Deutschland, JNG 7 (1956), 46.

[1442] The monetary reforms of Trajan are generally dated on the basis of the numismatic evidence to c. A.D. 100, see L. C. West, Gold and Silver Coin Standards, 79—80, 84; S. Bolin, State and Currency, 208; cf. also F. Heichelheim, Klio 25 (1932), 129—131. Dio Cassius places Trajan's calling-in of the heavier coins then in circulation in A.D. 107: τό τε νόμισμα πᾶν τὸ ἐξίτηλον συνεχώνευσε (Dio LXVIII.15.3). Cf. D. Sperber, New Light on the Problem of Demonetization in the Roman Empire, NC 7 ser. 10 (1970), 111—115 argues from Talmudic sources that Trajan did not demonetize pre-Neronian Julio-Claudian coinage.

[1443] So S. Bolin, Congrès int. de numismatique (1957), 584—585; cf. H. Jungwirth, Der Münzschatzfund von Erla, NZ 82 (1967), 27—28, who suggests that the pre-Neronian imperial *denarii* were put out of circulation by the reform of Nero.

[1444] This is confirmed by numerous analyses: J. Hammer, ZfN 26 (1907/08), 67: *aurei* from Augustus to Constantine with a fineness of 998—980; E. R. Caley, Analytical Chemistry 34.4 (1952), 678: 16 *aurei* from Tiberius to Diocletian analysed by specific gravity with a fineness of 990 to 980; P. Meyers, Archaeometry 11 (1969), 74: 28 *aurei* from Domitian to Pertinax analysed by neutron activation, most are better than 990; and L. H. Cope, The Complete Analysis of a Gold Aureus by Chemical and Mass Spectrometric Techniques, in: R. T. Hall and D. M. Metcalf (eds.), Methods, 307—313: an *aureus* of Nero with a fineness of 995.5.
The official exchange rate of 25 *denarii* for one *aureus* also remained unchanged for at least two and a half centuries, see T. V. Buttrey, Dio, Zonaras and the Value of the Roman Aureus, JRS 51 (1961), 40—45, who discusses Dio LV.12.3—5, the only literary evidence on the matter, cf. R. A. G. Carson, The Reform of Aurelian, RN 6 ser. 7 (1966), 226—227; J. Guey, Vers 216—217 après J.C. le denier romain valait-il toujours 1:25 d'*aureus* ?, BSFN 16.5 (1961), 427—428. See also the conclusion of D. Sperber, JESHO 13 (1970), 1, who notes that in terms of gold, prices in the inflationary third and fourth centuries had not changed greatly. For the price of gold in terms of *denarii* in the Edict of Diocletian see A. Segrè, Papirologia e numismatica, A: 1 P. Beatty Panop. e la moneta dell'ete di Diocleziano e di Costantino, CE 40 (1965), 198—204; cf. J. Bingen, Le prix de l'or dans l'Édit du Maximum, CE 40 (1965), 206—208 favouring a figure of 90,000; cf. Idem, Note complémentaire, CE 40 (1965), 431—432, noting that on the basis of Klaffenbach's study of the squeeze of the Elatea copy 50,000 appears to be the correct figure: so also J. P. Callu, À propos

de JRS 56, 1966, pp. 190—195, BSFN 22.2 (1967), 135—136. The recently published Aezani copy of the 'Price Edict' contained a price of 72,000 *denarii*, see C. Jungck, Die Neuen Funde zum Preisedikt Diokletians, SM 26 (1976), 26.

[1445] So T. Mommsen, Histoire de la monnaie romaine 3 (Paris 1869), 337—338; accepted by E. H. Warmington, Commerce², 284; cf. the criticism of J. Graf, Münzverfälschungen im Altertum, ZfN 35 (1903), 102—103. It is frequently argued that such plated coins are products of the Roman mint; so, for example, E. Schmalzriedt, Material und Methode: Systematisches zum Problem der falschen Münzen antiker Zeit, StudGen 13.5 (1960), 307—308; cf. M. H. Crawford, Plated Coins — False Coins, NC 7 ser. 8 (1968), 55—59 and Idem, RRC I., pp. 560—562, who argues that in the Republican period all plated coins are non-official forgeries.

[1446] For a detailed study of the role of the *Maria Theresia-Thaler* in East Africa see R. Pankhurst, The Maria Theresa Dollar in Pre-War Ethiopia, JES 1.1 (1963), 8—26, who gives annual minting figures as high as 8.3 million for the early years of the present century; also Idem, Ethiopian Monetary and Banking Innovations in the Nineteenth and early Twentieth Centuries, JES 1.2 (1963), 66—73 on the circulation of other coin types in addition to the *Thaler*.

[1447] So M. Khvostov, Istoriia, 400—404.

[1448] So E. H. Warmington, Commerce², 284—285; cf. 289, where he even envisages a recall of Roman coins in circulation in India by the Roman government for reminting in a more debased form! Similarly also E. W. Gray, JRS 60 (1970), 223—224: "The Roman government financing a great new venture."

[1449] This is the implication from the theories of R. Göbl; cf. above n. 668.

[1450] For the reorganization of the bronze currency issued at Alexandria by Augustus (c. 8—2 B.C.) see J. G. Milne, The Alexandrian Coinage of Augustus, JEA 13 (1927), 135—140. For the continued circulation of Ptolemaic coins in the Roman period see J. G. Milne, The Currency of Egypt under the Romans to the Time of Diocletian, LAAA 7 (1914), 53, 60—61, and V. B. Schuman, The Seven-Obol Drachma of Roman Egypt, CPh 47.4 (1952), 214—218, who argues that the 29-obol tetradrachms and 7-obol drachms which occur in various documents are Ptolemaic coins. See also L. C. West and A. C. Johnson, Currency in Roman and Byzantine Egypt (Princeton 1944), 66—69. Ptolemaic coins still occur in hoards from a surprisingly late period: a bronze of Ptolemy X was found in the 1914 excavations at Antinoe, J. G. Milne, NC 6 ser. 7 (1947), 113; Milne cites a hoard of c. 2200 Roman tetradrachms of the time of Probus which contained two Ptolemaic tetradrachms, LAAA 7 (1914), 60 n. 1; a bronze coin of Cleopatra VII was found in a hoard from Batu Harit (Theadelphia) which was closed c. A.D. 314/315, K. Regling, Münzschatz aus Theadelphia, ZfN 29 (1912), 115.
The possibility that Ptolemaic coins continued to circulate was originally denied by T. Mommsen, Zum ägyptischen Münzwesen, APF 1 (1901), 283; cf. G. Dattari, Appunti di numismatica alessandrina XVI, RIN 15 (1902), 421—423. The continued circulation of Ptolemaic coins would not be unusual; in the northern provinces Celtic coins continued to circulate well into the Julio-Claudian period, see K. Castelin, Wann endete der keltische Münzumlauf in Manching?, SM 23 (1973), 125; Idem, Zur Datierung der spätnorischen Kleinsilbermünzen, SM 21 (1971), 33—37; H. W. Doppler, Die keltischen Münzen aus Baden (Schweiz), SM 23 (1973), 125—129. In the Roman province of Arabia Nabataean silver coins continued to circulate for at least a generation after A.D. 106 along side Roman imperial coinage, e.g. the Murabba'at hoard buried c. 132/135, see J. T. Milik and H. Seyrig, Trésor monétaire de Murabba'ât, RN 6 ser. 1 (1958), 11—24.

[1451] For early history of the Alexandrian mint under Augustus and Tiberius see G. Dattari, RIN 15 (1902), 412—433.

[1452] For analysis of the fineness of the Alexandrian tetradrachms see: G. Dattari, Saggio storico sulla monetazione dell'Egitto dalla caduta dei Lagidi all'introduzione delle monete con leggenda latina, II, RIN 16 (1903), 18—19 (Nero); 32 (Hadrian and Antoninus Pius); Idem, RIN 16 (1903), 272—273 (Marcus Aurelius); 301 (Gordian III); J. G. Milne, Alexandrian Tetradrachms of Tiberius, NC 4 ser. 10 (1910), 336; G. Mickwitz, Geld und Wirtschaft im Römischen Reich des vierten Jahrhunderts n. Chr. (Helsingfors 1932), 40—41; L. C. West and A. C. Johnson, Currency in Roman and Byzantine Egypt, 172—173; E. R. Caley, Chemical Composition of Parthian Coins, 37—38; Idem, Chemical Composition of Alexandrian Tetradrachms, in: H. Ingholt (ed.), CPANS, 167—180. Cf. also the discussion of weight and fineness of first century tetradrachms in J. Schwartz, Réflexions sur les tétradrachmes d'Alexandrie au premier siècle p. C., CE 41 (1966), 371—379. For the administration of the Alexandria mint see J. G. Milne, JRS 8 (1918), 154—178.

[1453] So L. C. West and A. C. Johnson, Currency in Roman and Byzantine Egypt, 5; J. G. Milne, Roman Coinage in Egypt in Relation to the Native Economy, Aegyptus 32 (1952), 145.

[1454] For hoards of Alexandrian tetradrachms on the German *limes* see, for example, FMRD II.3.3231 from Buchau (9 tdrs.: 1 Ptolemy III, 5 Nero, 3 Commodus); FMRD II.3.3246 (4 tdrs.). For finds of one or two tetradrachms see e. g. FMRD I.7.7091 (2 Aurelian); FMRD I.7.7132 (1 Hadrian); FMRD II.3.3228 (1 Claudius, 1 Marcus Aurelius and 1 Gallienus); FMRD II.4.4307 (1 Nero). All told, at least 25 sites in Germany have produced coins from the Alexandrian mint. Cf. also finds of Alexandrian tetradrachms in Jutland: 1 at Flensborg; 1 at Hojer and 2 at Jørgensminde; see J. Balling, NNÅ (1962), 57—59. An Alexandrian tetradrachm of Hadrian was found at Augst in 1962; see H. A. Cahn, Münzen aus fernen Gegenden in Augst, in: E. Schmidt, L. Berger, and P. Bürgin (eds.), Provincialia. Festschrift für R. Laur-Belart, 59 no. 14. A hoard of 46 Alexandrian tdrs. and Æ was found in 1908 in London; see F. D. Ringrose, Find of Alexandrian Coins in London, NC 4 ser. 11 (1911), 357—358. Up until 1928 a further 18 separate finds of Alexandrian issues before Diocletian had been reportedly found in Britain, see G. F. Hill, Alexandrian and Ptolemaic Coins found in England, NC 5 ser. 10 (1930), 335—338. Another 86 coins of the Alexandria mint were said to have been collected in Belgium from plundered ancient sites, see H. Schuermans, Monnaies égyptiennes recueillies ou trouvées en Belgique, RBN 5 ser. 6 (1874), 186—196. These coins also occur in East Africa, Central Europe and the Soviet Union: e.g. in Poland at Bielsko and Wlodawa, see A. Kunisz, Chronologia napływu pieniadza rzymskiego na ziemie Małopolski (Warsaw 1969), 139—140, no. 7 and 156, no. 286. For finds in Morocco see J. Marion, Note sur la contribution de la numismatique à la connaissance de la Maurétanie Tingitane, AntAfr 1 (1967), 100. Most non-Egyptian finds of Alexandrian tetradrachms fall into a pattern and I hope to publish a discussion and catalogue of these coins in the near future.

The phenomenon has attracted more attention in the Byzantine period when, however, it is certain that coins from the Alexandria mint were legal tender everywhere in the Empire; D. M. Metcalf, The Aegaean Coastlands under Threat: Some Coins and Coin Hoards from the Reign of Heraclius, ABSA (1962), 14—23; Idem, NC 7 ser. 3 (1963), 87—88.

[1455] It was suggested by T. Mommsen, APF 1 (1901), 277 that troops stationed in Egypt are paid in *denarii*; so also J. G. Milne, LAAA 7 (1914), 52. The occurrence of the term *denarius* in Latin military papyri is meaningless, since the tetradrachm was equated to the *denarius* in name and value. Cf. J. G. Milne, Aegyptus 32 (1952), 145. Imperial donatives and the *viaticum* were, however, paid out in *aurei*, e. g., see BGU II.423 = Chrest. Wilck. 480.

It has also long been maintained on the basis of Suetonius Dom. 7.3, who describes Domitian's increase of military pay thus: *addidit et quartum stipendium militi, aureos ternos* — that a portion of each soldier's pay was in gold; see A. von Domaszewski, Der Truppensold der Kaiserzeit, NHJ 10 (1900), 218—241; denied by P. A. Brunt, Pay and Superannuation in the Roman Army, PBSR 18 (1950), 54—57. Cf. G. R. Watson, The Birdoswald hoard: the Pay and the Purse, Tr. Cumb. & Westmorland Antiquarian & Archaeological Society n. s. 54 (1954), 61—65, who notes the presence of *aurei* in soldiers' purses as confirmation of Domaszewski.

[1456] E. Birley, Roman Britain and the Roman Army, Collected Papers (Kendal 1953), 23—24.

[1457] The *legio III Cyrenaica* served with Corbulo in Armenia, see Tacitus, Ann. XV.26; a *vexillatio* of the legion fought in the Jewish uprising of A. D. 116/17; see CIL III.13587 = ILS 4393 (from Jerusalem); also in Trajan's Parthian campaign; cf. CIL X.3733 = ILS 2083 and also possibly to be restored in the fragmentary inscription from the triumphal arch at Dura, S. Gould, Dura Excavations, Fourth Season, 56—65; cf. M. Rostovtzeff, Klio 31 (1938), 286.

[1458] It was suggested by Préaux on the basis of P. Mich. VIII.465 and 466 that the *III Cyrenaica* was transferred to Arabia in A. D. 106 under the command of C. Claudius Severus, attested as governor of the province A. D. 111—115. Only its headquarters staff remained behind in Alexandria; so C. Préaux, Une source nouvelle sur l'annexion de l'Arabie par Trajan: les papyrus de Michigan 465 et 466, Phoibos 5 (1950/51), 125—131. Others assumed that the legion to which Apollinarius belonged was the *VI Ferrata* from Syria; so R. Syme, JRS 48 (1958), 4 n. 42 and G. W. Bowersock, ZPE 5.1 (1970), 40—43, who argues that the *III Cyrenaica* did not become the garrison of Arabia until the Bar Kochba revolt. The legion is still in Egypt in 119, cf. BGU I.140. Further documents from the Apollinarius archive were subsequently published as P. Mich. IX. 528, 549, 562, 571 and 572. In one of these Apollinarius styles himself Γαίος 'Ιούλιος 'Απολλινάριος σ̣τ̣ρ̣α̣τιώτ̣(ης) λ̣ε(γεῶνος) $\bar{\gamma}$ Κυρ(ηναικῆς) φρουμεντάριος 'Ρώμη[ς] (P. Mich. IX.562. 1—2). Bowersock's thesis relies primarily on a Latin dedication from Gerasa by members of *legio VI Ferrata*: C. B. Welles, in: Gerasa no. 171; recently a further Latin inscription from the same site mentioning another member of the same legion has been republished by M. Sartre, Note sur la première légion stationnée en Arabie romaine, ZPE 13.1 (1974), 85—89 who also argues that this legion must be the first garrison of the province. *Legio VI Ferrata* is attested in Syria in the Flavian period and appears to have been moved to Palestine under Hadrian, see B. Lifshitz, Sur la date du transfert de la *legio VI Ferrata* en Palestine, Latomus 19.1 (1960), 109—111; see the inscriptions from the legion's camp near Lajjun, M. Avi-Yonah, Newly Discovered Latin and Greek Inscriptions, QDAP 12 (1945—46), 89—91; a further inscription of the legion from near Tell Shalem is published by N. Tzori, An Inscription of the *legio VI Ferrata* from the Northern Jordan Valley, IEJ 21.1 (1971), 53—54. Roof tiles of the legion have been found at Lajjun and Horvat Hazon, see D. Bahat, A Roof Tile of the *legio VI Ferrata* and Pottery Vessels from Ḥorvat Ḥazon, IEJ 24.3/4 (1974), 162—163; cf. L. J. F. Keppie, The Legionary Garrison of Judaea under Hadrian, Latomus 32.4 (1973), 860—864 who inclines toward seeing the *VI Ferrata* as the first garrison of Arabia and places the legion in Judaea in c. A.D. 135; cf. M. P. Speidel, Arabia's First Garrison, ADAJ 16 (1971), 111—112 who argues on the basis of P. Mich. IX.562 that the first garrison of Arabia must have been *legio III Cyrenaica.*

Such a despatch of a unit outside of Egypt was not an unusual occurrence: e.g. Claudius Terentianus of the *classis Alexandrina* writes (P.Mich. VIII.467.8): *s[cias] autem [ra]pi me in Syriam exiturum cum vexillo,* cf. R. W. Davies, BASP 10 (1973), 23. A recently published papyrus (P. Berlin inv. 21675) of the second century contains a letter in which a soldier stationed in Alexandria writes to his mother about the temporary movement of his cohort to Mauretania: ὅτι ἡ χώρ̣τ̣η̣ ἡμῶν εἰς τὴν Μαυριταν̣ί̣[α]ν ὑ. . ε̣ι̣· μέχρι σήμερον ἡμέρας ἐξέρχεται ἡ ἄλη τῶν Μαύρων καὶ ἡ χώρτη . . . τῶν 'Αφρώρω[ν]· ἐξαναπληροῦται ἐκείνη ἡ χώρτη ἐκ τῆς ἡμῶν χώρτ(ης)· ἀπὸ τριῶν ἐτῶν ἐξέρχονται·, see W. Brushear, in: Collectanea Papyrologica, 1.325—329. The meaning of these movements remains obscure but they would make more sense early in the reign of Septimius Severus when the garrison in Mauretania received substantial reinforcements, see M. P. Speidel, Numerus Syrorum Malvensium, the Transfer of a Dacian Army Unit to Mauretania and its Implications, Dacia n.s. 17 (1973), 170—171. The pay situation is further complicated by the military savings (*deposita*) of individual soldiers. That this was actually a cash portion of the soldier's pay retained in a strong box in the camp is clear from Domitian's legislation limiting the amount to 1,000 *sesterces* (Suet. Dom. 7.3). The legislation was not always adhered to, cf. P. Fay. 105 = CPL 124 = ChLA III.208 = Rom. Mil.Rec. no. 73 (c. A.D. 120—150) in which two individuals have much larger sums on deposit. Usually a veteran would receive his *depositum* upon retirement (see discussion and restoration of P. Lond. 2815.21 = CPL 112 = ChLA III.219 = Rom.Mil.Rec. no. 63 by R. W. DAVIES, Optatus and the Roman Army: P. Lond. 2851.1—22, BASP 5.4 [1968], 124). Since such retirements could take place while a unit was outside of its own province (e.g. the discharge of men from several Pannonian *alae* through the *procurator* of Mauretania Caesariensis *cum essent in expeditione* in CIL XVI.99 = ILS 9056) of necessity a soldier's savings must have been paid out in imperial coinage.

[1459] The date of the issuance of imperial coinage from Alexandria is still disputed. Many scholars prefer A. D. 294: H. A. CAHN, Die Trierer Antoniniane der Tetrarchie, RSN 37 (1955), 5—22; C. H. V. SUTHERLAND, Diocletian's Reform of the Coinage, a Chronological Note, JRS 45 (1955), 116—118; IDEM, Diocletian's Extension of the 'Latin' Follis to Egypt: The Date and Sequence of Issues, in: Congresso int. di num. Roma (1965), 341—346; IDEM, Some Political Notions in Coin Types between 294 and 313, JRS 53 (1963), 14—16; M. THIRION, Folles d'Alexandrie, RBN 107 (1961), 192—209; cf. H. MATTINGLY, The Monetary Systems of the Roman Empire from Diocletian to Theodosius I, NC 6 ser. 6 (1946) 112; J. P. CALLU, Genio Populi Romani (295—316): contribution à une histoire numismatique de la Tétrarchie (Paris 1960), 20, who favours a date of 295/6 for the reform. For A.D. 296 see J. SCHWARTZ, L. Domitius Domitianus et l'*épigraphé*, CE 38 (1963), 154—155; IDEM, La monnaie d'Alexandrie et la réforme de Dioclétien, SM 13/14 (1964), 98—102 and J. LALLEMAND, Le monnayage de Domitius Domitianus, RBN 97 (1951), 89—103. For the possibility of a second reform c. A.D. 299—300 see L. H. COPE, Alloys of the large Tetrarchic Folles, NC 7 ser. 8 (1968), 117, basing himself on a study of the alloys in the *folles*. A date of A. D. 291/292 for the introduction of the reform was suggested by G. DATTARI, RIN 16 (1903), 325—327. For DATTARI's theory that *folles* and tetradrachms were issued simultaneously at Alexandria in the period 291/292 to 295/6 see G. DATTARI, RIN 15 (1902), 317 n. 8, and IDEM, Sur l'époque où furent frappées en Égypte les premières monnaies de la réforme de Dioclétien, RN 4 ser. 8 (1904), 394—399. For the Alexandrian mint in the time of Diocletian see J. G. MILNE, The Organisation of the Alexandria Mint in the Reign of Diocletian, JEA 3 (1916), 207—217.

[1460] MILNE stresses that the bronze issues of the Alexandrian mint were the chief coinage in the Chora while silver issues circulated primarily in Alexandria; J. G. MILNE, LAAA 7 (1914), 56; IDEM, Roman Coinage in Egypt in Relation to the Native Economy, Aegyptus 32 (1952), 147—148. On the use of tetradrachms to pay taxes in the Chora see V. S. SCHUMAN, Three Accounting Terms of Roman Egypt, CPh 44 (1949), 236—239; IDEM, The Basis of Accounting Practices in the Karanis Tax Rolls, Aegyptus 32 (1952), 241—252; IDEM, Pour le versement à Alexandrie, CE 38 (1963), 315—317, where he argues that the terms προσδιαγραφόμενα and αἳ καί, ῥυπαρός represent transportation charges made if a tax is paid in copper rather than tetradrachms.

T. MOMMSEN, APF 1 (1901), 274—277 argued that *denarii* were extensively used in Roman Egypt and that expressions such as ἀργυρίου ἐπισήμου νομίσματος δραχμή, ἀργυρίου Σεβαστοῦ καὶ Πτολεμαικοῦ νομίσματος δραχμή, etc. refer to imperial *denarii* rather than the provincial coinage. On the basis of the hoards and site finds this possibility can be completely excluded. Many tetradrachms found in Egypt still remain unpublished. The most extensive published collection from a single site is from Karanis, 26, 796 coins; see the catalogue published by R. A. HAATVEDT and E. E. PETERSON, Coins from Karanis (Ann Arbor 1964). Further hoards and site finds are listed below n. 1596. Finds of hoards of tetradrachms are relatively infrequent: see, for example, a small group of 45 coins (Claudius to Antoninus Pius) which appeared on the antiquities market in Athens in 1962; T. HACKENS, Trésor de tétradrachmes alexandrins de l'époque impériale, BCH 89.2 (1965), 383—389.

[1461] For a hoard of 52 *denarii* buried in the time of Marcus Aurelius, see G. Dattari, Piccolo ripostiglio di denari rinvenuto in Egitto, Rassegna Numismatica 3 (1906), 58—60; for a hoard of *denarii* dating from late in the reign of Nero to the reign of Trajan and including a large number of worn silver issues from the Peloponnesus and Rhodes (second and first centuries B. C.) see S. H. Weber, An Egyptian Hoard of the Second Century A. D., NNM no. 54 (1932); J. G. Milne, LAAA 7 (1914), 52 mentions two or three small hoards of *denarii* of the Severan period; a *denarius* of Domitian was found at Karanis, see R. A. Haatvedt and E. E. Paterson, Coins from Karanis, 126, no. 177.
For 1,200 *aurei* (Hadrian to Elagabalus) from Karnak and c. 600 *aurei* (Severus Alexander to Diocletian) from Abukir, see F. Kenner, Zu den Goldfunden von Karnak and Abukir, Monatsblatt der numismatischen Gesellschaft in Wien, 6.8 (1903), 100. The Abukir find is reported to have contained 14 to 18 gold ingots of which only 3 have survived: 2 in the British Museum, see G. F. Hill, PSA 20 (1901), 90; one in the Pierpont Morgan collection, A. B. Brett, A Roman Gold Bar from Egypt, Numismatist 33 (1920), 279—281. On the latter the stamp of the *probator* reads: *(Antiu)s pro(bavit)*; a second stamp: *A(ulus) C(aecilius) Ve(stinus) p(rae)p(ositus) sig(navit)*. For the Karnak hoard see K. Regling, Römische *aurei* aus dem Funde von Karnak, in: Festschrift O. Hirschfeld, 286—298; J. de Foville, Monnaies trouvées à Karnak, RN 4 ser. 7 (1903), 272—280 who published 6 further *aurei* from the hoard, the latest three of Macrinus. At Karanis two hoards, one of 38 the other of 60 *aurei*, were found, R. A. Haatvedt and E. E. Paterson, Coins from Karanis, 4, 14—15. At Sakha in the Delta a hoard containing 40 *aurei* and 800 *denarii* was found, L. C. West and A. C. Johnson, Currency in Roman and Byzantine Egypt, 75. A hoard of fourth century gold coins has been found in the Excavations at Saqqara, see W. B. Emery, Preliminary Report on the Excavations at North Saqqara, 1966—67, JEA 53 (1967), 144; Idem, Excavations at North Saqqara, JEA 55 (1969), 34. Further *aurei* found in Egypt were published by J. Evans, On some Rare or Unpublished Roman Coins, NC 4 ser. 2 (1902), 349—353, 355—359 (4 described as "found near Minieh", 3 found near Alexandria as part of a large hoard — probably the Abukir hoard, 3 from the Karnak hoard).
The gold coins, it has been suggested, were in transit to India, so J. G. Milne, Aegyptus 32 (1952), 145; but this seems an unlikely explanation for the presence of *aurei* in Karanis. Stray imperial coins may have come to Egypt in the purses of soldiers transfered from other parts of the Empire, cf. R. Rémondon, Un nouveau document concernant Probus, RPh 3 ser. 28 (1954), 203 and also F. Heichelheim, Zu Pap. Oslo 83, SO 14 (1935), 82 = 85. Expenditures of *aurei* are mentioned in CIG IV.5008 and 5009, cf. L. C. West, The Roman Gold Standard and the Ancient Sources, AJPh 62.3 (1941), 291.

[1462] ChLA IV.264 lists very large sums of money (e. g. 338,000 and 738,000 drs.) collected from various taxes in the Thebaid. The summary of moneys collected at the end of the document is of particular interest (lines 18—22): *Summa ac[cep]ta ḍ[r. .]* $\overline{\mathit{CLXXX}}$*. [. . . / et quae p[er B]rutu[m] ḷạtae erant[/Fiunt dr[acm. Aug . . .]* $\overline{\mathit{CXXXVIII}}$ *. . . . . . /et calcul[atae sunt dr]ac̣m(arum) Aug̣(ustarum) [. . . . . argenti] /Tyri XVI. aeris Italic [i. . . . .* It is argued that this document definitely proves that the moneys listed at the end were current in Egypt, so M. R. Marichal, Deux papyrus latins relatifs à l'administration financière de l'Égypte, BSAF (1964), 109—111, and so also in ChLA IV. But this may be an over hasty judgement. See the provision in the Palmyra tariff, OGIS 629.153—156: Τὸ τοῦ σφάκτρου τέλος εἰς δηνάριον ὀφείλει λο[γεύεσθαι] / καὶ Γερμανικοῦ Καίσαρος διὰ τῆς πρὸς Στατείλι[ον ἐπισ]/τολῆς διασαφήσαντος ὅτι δεῖ πρὸς ἀσσάριον πά[ντα] / τὰ τέλη λογεύεσθαι. Money of account rather than actual coins may be intended; see the discussion of parallel instances in E. Holzmair, Rechnung und Zahlung, in: H. Ingholt (ed.), CPANS, 354—355, 362. It is also possible that the original of the letter was in Latin and that the term *asses* in the original has been retained in the Greek translation. Italian bronze certainly did not constitute a significant part of the coinage of Syria. The Tariff continues: τὸ δὲ ἐντὸς δηναρίου τέλο[ς τῇ] / συνηθείᾳ ὁ τελώνης πρὸς κέρμα πράξει. The reference to κέρμα indicates the use of a small local bronze coin. See H. Dessau, Hermes 19 (1884), 519—520; T. Mommsen, APF 1 (1901), 279 n. 2; J. G. Milne, LAAA 7 (1914), 66.

Imperial bronze issues are rare in site finds in Egypt. J. G. Milne, LAAA 7 (1914), 53 who notes that Dattari saw a few, usually Nero to Hadrian, among the many coins which passed through his hands. In a Latin pay record, P. Gen. Lat. 4 = ChLA I.9 = CPL no. 107 = Rom. Mil. Rec. no. 69 the term *a(sses)* appears several times, but almost certainly this refers to obols, see R. Marichal, Le Papyrus latin 4 de Genève, in: Studi in onore di Aristide Calderini e Roberto Paribeni (Milan 1957), 2. 225—241. A similar explanation may well apply to P. Oxy. IV.737 where *asses* are also mentioned several times. Similarly *sestertii (HS)* appear in one or perhaps two Latin military papyri: P. Grenf. II.110 = ChLA III.205 = CPL no. 142 = Rom. Mil. Rec. 86.4: *date fidẹị num HS o[ct]ogentum*; cf. A. Segrè, Inflation and its Implication in Early Byzantine Times, Byzantion 15 (1940/41), 251 n. 9. In P. Haw. 19 = ChLA IV.239 = CPL no. 319 = Rom. Mil. Rec. no. 131 the character read by Marichal in ChLA as a symbol for *sestertius* (lines a. 1, 6; b. 2) is read by Fink as a simple *h*. The latter suggests an abbreviation for *h(abet)*. Census records of Roman citizens in Egypt were also kept in *sesterces*, but here again the term is merely one of account, see J. F. Gilliam, in: Hommages à Claire Préaux, 767—771 (on BGU VII.1692 = CPL 152). These rare instances of the use of *as* and *sestertius* prove nothing about the presence of either coin in Egypt, cf. the comments of A. H. Jones, Numismatics and History, in: The Roman Economy, 74—75.

Latin and Greek papyri contain numerous references to *denarii* (cf. the list in L. C. West and A. C. Johnson, Currency in Roman and Byzantine Egypt, 71) understood by some to mean that troops were paid in *denarii*, so J. G. Milne, Aegyptus 32 (1952), 145, also T. Mommsen, APF 1 (1901), 277; but cf. above n. 1455.

It is also uncertain in what form the annual revenue surplus from Egypt was shipped to Rome. In the Flavian period the *fiscus Alexandrinus* made its appearance in Rome (ILS 1518; CIL VI. 5744, 8573; XV.7974a and b). It has been suggested that both it and the *fiscus Asiaticus* were intended to receive the large surplus revenues generated by both provinces, so M. Rostovtzeff, MDAI(R) 13 (1898), 108—123 and A. H. M. Jones, JRS 40 (1950), 27 (who seems not to know of Rostovtzeff's article); cf. L. Homo, Une leçon d'outre-tombe: Vespasien financier, REA 42 (1940), 461.

[1463] The powers of the Prefect to control the exchange rate between gold and silver are mentioned in P. Bad. I.37 (A.D. 113): ὁ δὲ χρυσοῦς, ἀνθ' ὧν ἦν δρα/χμῶν πιπρασκόμενος δέκα πέντε, ἕνδε/[κα ἐ]γένετο· ἐνέτυχον δὲ αὐτῶι οἱ τὸ προσ/[οδο]νομ[ῖ]ον λα[χ]όντες, ὧν καὶ ἡ προ⟨ς⟩θεσμία / [παρ]ει[λη]λύθη, [ἀ]ξιοῦντες τιμὴν στήσειν. / καὶ ὑ[π]έσχετο στήσειν τῇ η', οὔπω μέντοι / ἔστησεν. Cf. L. C. West and A. C. Johnson, Currency in Roman and Byzantine Egypt, 90—92, who suggest that at issue in the letter is the question of obtaining gold on the exchange market to send to Rome as part of the annual provincial surplus. (Their suggestion that gold is involved in such transactions is, of course, only a hypothesis and as such may be far from accurate.) Cf. J. Guey, Quelques textes paranumismatiques, BSFN 19.5 (1964), 355.

It was suggested by T. Mommsen, Ägyptische Legionare, Hermes 35 (1900), 449—450 that the figures for military pay in P. Gen. Lat. 1 = Rom. Mil. Rec. no. 68 indicated that the Roman government cheated its Egyptian troops of a considerable portion of their pay by a spurious exchange transaction from *denarii* to billon drachms. Followed by J. Lesquier, L'armée romaine, 251—252; R. Marichal, La solde des armées romaines d'Auguste à Septime Sévère, AIPHOS 13 (1953), 339—421, and P. Brunt, PBSR 28 (1950), 54—56; cf. the different views of A. C. Johnson, Roman Egypt, 673, and G. R. Watson, The Pay of the Roman Army: the Auxiliary Forces, Historia 8 (1959), 372—378; also R. O. Fink, in: Rom. Mil. Rec. pp. 244—245. See now M. Speidel, The Pay of the Auxilia, JRS 63 (1973), 142—144, who interprets P. Gen. Lat. 1 as a pay record of Roman auxiliaries receiving five-sixths of a legionary's pay.

[1464] Gnomon of the Idios Logos 106: ν̣[ό]μ̣ισμα πλέον οὐ[κ] ἰσχύει οὐ[κ ἐξὸ]ν̣ κε̣[ρ]ματίζειν, see J. G. Milne, The Roman Regulation of Exchange Values, JEA 16 (1930), 169—170, who suggests on the basis of this passage the exchange rate of *denarii* to tetradrachms was carefully regulated to favour the non-Egyptian merchants. Cf. W. Uxkull-Gyllenband, Der Gnomon des Idios Logos, 103—104, who argues that the exchange of copper for tetradrachms is referred to.

An order of the *strategus* of the Oxyrhynchite nome from A.D. 260 commands that the bankers and money changers of the nome accept imperial coinage; see P. Oxy XII.1411:

τῶν δημοσίων εἰς
ἓν συναχθέντων καὶ αἰτιασαμένων
τοὺς τῶν κολλυβιστικῶν τραπεζῶν
τραπεζείτας ὡς ταύτας ἀποκλεισάν-
τ[ω]ν τῷ μὴ βούλεσθαι προσ{σ}ίεσθαι
τὸ θεῖον τῶν Σεβαστῶν νόμισμα, ἀ[νάγ-]
κη γεγένηται παραγγέλματι π[αραγ-]
γελῆναι πᾶσει τοῖς τὰς τραπέζας κεκτ[ημέ-]
ν[οι]ς ταύτας ἀνοῖξαι καὶ πᾶ[[η]]ν [[π]]νόμι-
σ[μ]α προσίεσθαι πλὴν μάλισ[τα]
παρατύπου καὶ κιβδήλου καὶ κατακ[ερμα-]
τίζειν, οὐ μόνοις δὲ αὐτοῖς ἀλλὰ [τοῖς]
καθ' ὅντινα δὴ τρόπον τὰς συνα[λλα-]
γὰς ποιουμένοις, γεινώσκουσι[ν]
ὡς, εἰ μὴ πειθαρχήσιαν τῇδε τ[ῇ παρ-]
αγγελίᾳ, πειραθήσονται ὧν τὸ [μέ-]
γεθος τῆς ἡγεμονίας καὶ ἔτι ἄνω[θεν]
ἐπ' αὐτοῖς [[τὸ μέ]]γε[[θος]]νέσθαι πρ[οσ-
έταξεν.

The threatened penalty imposed by the Prefect suggests that the case was not unprecedented. See F. Heichelheim, Zur Währungskrisis des römischen Imperiums im 3. Jahrh. n. Chr., Klio 26 (1932), 96—113; O. W. Reinmuth, The Prefect of Egypt, 27.

In general on the governmental licensing and control of money changers see T. Reinach, Kollybos, RN 4ser. 31 (1928), 147. For Rhodes see the papyrus published by J. F. Oates, A Rhodian Auction Sale of a Slave Girl, JEA 55 (1969), 191—210, and the discussion by P. M. Fraser, Notes on Two Rhodian Institutions, ABSA 67 (1972), 113—119. See also the decree from Mylasa in Caria concerning the local exchange monopoly, OGIS 515.15—19 (A.D. 209/219): ψηφίσματι τῆς β[ουλῆς καὶ τοῦ δήμου ἐπ/α]νορθωθέντα· δεδόχθαι τῇ [βουλῇ καὶ τῷ δήμῳ· ἐ/ά]ν τις οἱῳδητινιοῦν τρόπῳ, [εἴτε ἐλεύθερος εἴτε / δ]οῦλος, ἔξωθεν τοῦ μεμισθωμ[ένου καὶ ἐργα/ζο]μένου τὴν τράπεζαν, ἀμειβόμεν[ος ἀλῶι νόμισμα ἢ / πρι]άμενος, πρὸς τὸν τραπεζείτην [τοῦτον ἄγεσθαι . . .]. See T. Reinach, Une crise monétaire au IIIe siècle de l'ère chrétienne (Inscriptions de Mylasa), BCH 20 (1896), 523—548; cf. R. Bogaert, Banques et banquiers, 44, 265—268. Cf. also the recently published tariff inscription from Jerusalem which in line 16 mentions a fee, ἀμειψέως χαλκ[ῶν], see I. L. Merker, IEJ 25.4 (1975), 239.

For the control of banks and money changers in Ptolemaic and Roman Egypt see WO I. pp. 630—649; F. Oertel, Die Liturgie, 247—250; E. Ziebarth, Hellenistische Banken, ZfN 34 (1924), 49—50; J. Desvernos, BSRAA 6.3 (1928), 308—321; E. H. Brewster, A Weaver's Life in Oxyrhynchus: His Status in the Community, in: G. P. Hadzsits (ed.), Classical Studies in Honour of John C. Rolfe (Philadelphia 1931), 34—45 (on the banks of Oxyrhynchus in the first century); C. Préaux, De la Grèce classique à l'Égypte hellénistique. La banque-témoin, CE 33 (1958), 243—255; cf. N. Lewis, in: Proceedings of the Twelfth International Congress of Papyrologists, 7 who points out that the Romans altered the Ptolemaic system by permitting the operation of private banks.

[1465] Quite possibly the fixed exchange rate of one tetradrachm per *denarius* combined with the debasement of the Alexandrian coinage effectively discouraged the import of *denarii* for domestic use in Egypt any time after Tiberius; cf. A. Segrè, Metrologia, 417.

[1466] Miller repeatedly stresses that changes in fineness and the export of coins to India are all part of a carefully thought out imperial policy; J. I. Miller, Spice Trade, 218—220,

241. See the sober remarks of WEST on equally strange theories about various decreases in coin weight and debasements, L. C. WEST, Ancient Money and Modern Commentators, ANSMN 6 (1954), 5—9.
The lack of any consistent monetary policy is also suggested by the great fluctuations in emissions of billon and bronze from the mint at Alexandria. Note, for example, the mass of Neronian tetradrachms and the large number of Æ under Trajan of which the enigmatic nome coins were a part; see J. G. MILNE, The Nome Coins of Egypt, Ancient Egypt (1932), 3.73—78; cf. J. LALLEMAND, Monnaies des nomes au Cabinet des Médailles de Bruxelles, CE 38 (1963), 318, who lists coins from 31 nomes. Nevertheless there is a chronic shortage of official coinage in the Chora, hence the many lead tokens, some semi-official and some private, found at Egyptian sites of the Roman period, see J. G. MILNE, Leaden Tokens from Memphis, Ancient Egypt (1915), 107—121. Nor was Egypt alone. Of similar nature may be the fifth century lead tokens found at Izvoarle together with Æ official issues of the same period, see V. CULICA, Moneda măruntă romano-bizantină din selocul al V-lea e. n. și unele replici în plumb de la Izvoarle, jud. Constanța, Pontica 5 (1972), 267—300 (Ger. rés.). It has been suggested that the frequent evidence of local production of cast base metal coinage from the northern *limes* resulted from individual efforts to compensate for the imperial neglect of this type of coinage, so M. R.-ALFÖLDI, Die Gußformen und gegossenen Fälschungen kaiserzeitlicher Münzen, Chiron 1 (1971), 361—362.

[1467] There can be no doubt about the point of origin of most of the coinage found in India, since the 'Periplus', which reports its import into Indian ports, is unfamiliar with the ports at the head of the Persian Gulf (see above n. 1361).

[1468] The concentration of finds of *tesserae nummulariae* in Italy particularly from Rome and Puteoli is suggestive of the importance of these cities for banking and money changing in the Roman Empire; see the pioneer study of R. HERZOG, Aus der Geschichte des Bankwesens im Altertum: Tesserae nummulariae (Gießen 1919), 13—15. A further such *tessera* mentioning a C. Octavius was published by F. MÜNZER, Aus dem Verwandtenkreise Caesars und Octavians, Hermes 71 (1936), 222—223. For the identification of P. Oxy. VI.958 as an example of such a *tessera* from Egypt dated A.D. 80 see F. PREISIGKE, Girowesen in Ägypten, 457; cf. R. HERZOG, Gesch. d. Bankwesens, 33. For the material in the Talmud on money changing in the Near East see E. LAMBERT, Les changeurs et la monnaie en Palestine du Ier au IIIe siècle de l'ère vulgaire, REJ 52 (1906), 24—42.

[1469] See A. H. M. JONES, Numismatics and History, in: The Roman Economy, 63; cf. C. H. V. SUTHERLAND, The Intelligibility of Roman Imperial Coin Types, JRS 49 (1959), 46—55; IDEM, Some Political Notions in Coin Types between 294 and 313, JRS 53 (1963), 14—20. M. HENDY, Mint and Fiscal Administration under Diocletian, his Colleagues, and his Successors, A.D. 305—24, JRS 62 (1972), 81—82.

[1470] A. H. M. JONES, LRE I.623—624.

[1471] H. LAST, The Fiscus: A Note, JRS 34 (1944), 51—52, and see discussion in A. H. M. JONES, The Aerarium and the Fiscus, JRS 40 (1950), 23. Cf. also the analysis of the coins in soldiers' arm purses from Birdoswald and Thorngrafton: I. A. RICHMOND, The Birdoswald Hoard and its Composition, Trans. Cumb. & Westmoreland Antiquarian & Arch. Soc. n. s. 54 (1954), 56—60; see also T. V. BUTTREY JR., A Hoard of Sestertii from Bordeaux and the Problem of Bronze Circulation in the Third Century A.D., ANSMN 18 (1972), 55.

[1472] For the terminology of money-changing see R. BOGAERT, Banques et banquiers, 44—50. A considerable number of sarcophagi and reliefs depict *argentarii* practising their profession but significantly no means of weighing coins (and thereby detecting the heaviest pieces) is visible. See the monuments discussed by G. B. MONTANARI, Frammento di sarcofago romano del Museo di Ravenna con raffigurazione di un 'argentarius', Congresso Int. di Numismatica Roma (1965), 2.451—456. See also the discussion of sorting and testing of coins by the *nummularii* and the publication of the *tesserae nummulariae* by

R. Herzog, Gesch. d. Bankwesens, 4—13; cf. the description in a Manichaean Coptic text of the role of *nummularii* in the minting process, that is the picking out of coins suitable for circulation, H. Hommel, Ein antiker Bericht über die Arbeitsgänge der Münzherstellung, SM 15 (1965), 111—121. On *nummularii* and *argentarii* in Latin inscriptions in the West see H. Gummerus, Die römische Industrie. Wirtschaftsgeschichtliche Untersuchungen. Das Goldschmied- und Juweliergewerbe, Klio 14 (1915), 139—150. An artistic representation of the selection process of coins by type appears to be depicted on a fourth century glass cup with the inscription *andres collybistae*, which depicts a man choosing individual coins from two trays presented to him by a money-changer, see S. Karwiese, Münzdatierung 'Aus dem Beutel' (Ein Versuch), JÖAI 50 (1972/73), 288—289, fig. 4 who discusses the date of this piece.

[1473] Only one of the published Indian hoards contains such blanks, the 1932 hoard from Vellalur: W43 = G14. The explanation given for these by Miller is totally fanciful: 'unstruck pieces' suggesting premature withdrawal from the Mint, perhaps to catch a ship about to sail for Alexandria, J. I. Miller, Spice Trade, 237. So also S. Bolin, State and Currency, 73, who states that such 'unstruck pieces' could only come directly from the mint. Several passages in the 'Talmud' suggest that such blanks were frequently used by money changers in Palestine and Syria, see the passages discussed by E. Lambert, REJ 52 (1906), 33. Such blanks occasionally occur in hoards. A large Parthian bronze hoard from Nineveh (597 coins) contained a single such blank, G. Le Rider, Un trésor de petites monnaies de bronze trouvé à Ninive, Iranica Antiqua 7 (1967), 11. The purse found in the Sutton Hoo Ship contained three unstruck circular blanks together with 37 Merovingian gold coins; see P. Grierson, The Purpose of the Sutton Hoo Coins, Antiquity 44 (1970), 16—17, who argues that the blanks were added to make up the number necessary to provide a 'Charon's obol' for each oarsman. 43 bronze flans were included in a lot with 61 Ptolemaic coins excavated at Mirgissa in the Sudan, G. Le Rider, RN 6 ser. 11 (1969), 33.

[1474] For Egypt see above n. 1467. The only evidence for the export of Roman coins from Characene is a hoard found at Yestwantpur. In 1891 during railway construction 163 *denarii* of the period from Augustus to Claudius were found. One of the coins was said to have had the 'Persian' word '*karkh*' scratched on it. This led to the suggestion that the coins were buried in Mysore by Persian horse dealers. For this hoard see E. Thurston, MGMCC 2^2.26—28 and R. Sewell, JRAS (1904), 624—625, 627—628. Karkh may be a variant spelling of Kharg, the name of the island in the Persian Gulf where Ghirshman believes he has found traces of Palmyrene occupation; see R. Ghirshman, RA 6 ser. 1 (1959), 70—77 and above n. 784.

[1475] For Italian merchants in Alexandria see above n. 1311.

[1476] On whom see above n. 819. Such connexions are also suggested by the banking transactions of Tiberius Iulius Alexander which saved Agrippa from his creditors, see above n. 807.

[1477] See above n. 798.

[1478] For Alexandrians in Attica see IG II^2.7999—8038; cf. also at Athens the ethnic 'Αντιοχεύς in IG II^2.8097—8324; at Tomis there was a *fondak* of Alexandrian merchants, IGR I.604: οἶκος τῶν 'Αλεξανδρέων; for Alexandrians in Perinthus see IGR I.800: 'Αλεξαν/δρεῖς οἱ πραγματευόμενοι / ἐν Περίνθῳ τὸν ἀνδριάντα . . . . Merchants from Syria and Alexandria did not settle in Thrace and the regions of the lower Danube in considerable numbers until the second century of our era; cf. M. Tatscheva-Chitova, Handwerker und Kaufleute aus dem Griechischen Osten in Thrakien (I.—III. Jh.), Acta Conventus XI 'Eirene', 87—89.

[1479] Opinions have differed about whether or not the Persepolis tablets contain evidence for the introduction of the widespread use of coinage in early fifth century Persia. This was argued by G. G. Cameron, Persepolis Treasury Tablets (Chicago 1948); so also

G. Goossens, Artistes et artisans étrangers en Perse sous les Achéménides, La Nouvelle Clio 1 (1949), 42; cf. partial retraction by G. G. Cameron, Persepolis Treasury Tablets, Old and New, JNES 17 (1958), 161. This view has been subjected to considerable criticism and there should now be little doubt that 'coinage' is not used to make the silver payments mentioned in the P.T. and P.F. documents; see P. Naster, Were the Labourers of Persepolis Paid by Means of Coined Money?, AncSoc 1 (1970), 129—134. Persian *sigloi* were apparently struck primarily for use in the Greek region of Asia Minor where alone they occur in hoards in substantial numbers; see D. Schlumberger, Trésors monétaires d'Afghanistan, 6—11. For a brief characterization of Near Eastern hoards, which usually contain mutilated coins, scraps of metal and jewellery, see C. M. Kraay, Hoards, Small Change and the Origin of Coinage, JHS 84 (1964), 83—84. Also on the use of '*Bruchsilber*', *kaspum* in Akkadian, in the ancient Middle East see W. Eilers, Akkad. *kaspum* Silber, Geld, und Sinnverwandtes, Welt des Orients 2 (1957), 322—337. Nor do darics and *sigloi* appear to have been used in Eastern commerce. With the exception of a single coin from Taxila no Persian coins have been found in India; see B. N. Mukherjee, On the absence of Darics in India, IHQ 53 (1957), 66—79. Similar conclusions about the late arrival of a monetary economy in Central Asia in the third century B.C. were reached by V. M. Masson, Denezhnoe khoziaistvo Drevnei Srednei Azii po numizmaticheskim dannym, VDI (1955), 2.37—47. A consequence of this type of usage is that works in precious metals are inscribed with their respective weights so that they could be used as bullion; so, for example, the weight-inscriptions on the gold phiale and amphora in the Panagjurischte (Bulgaria) treasure of 1949, see J. G. Griffith, The Siege Scene on the Gold Amphora of the Panagjurischte Treasure, JHS 94 (1974), 38—39.

[1480] The modus operandi was similar in Palestine, Babylon and Persis and can be traced in a considerable number of literary texts and documents. Both secular (governments and businesses) and religious organisations (temples) melted down and refined at regular intervals all of the uncoined silver they received and cast it into ingots of uniform quality. For the procedure at the temple in Jerusalem see C. Torrey, The Foundry of the Second Temple of Jerusalem, JBL 55 (1936), 247—260; O. Eissfeldt, Eine Einschmelzstelle am Tempel zu Jerusalem, FuF (1937), 163—164. For the evidence from Neo-Babylonian tablets see A. L. Oppenheim, A Fiscal Practice of the Ancient Near East, JNES 6 (1947), 116—120; cf. particularly the details of this procedure in PTT 85, an Akkadian text of 502 B.C. from Persepolis. See also the recent discussion of the use of metal rings such as those found at Ur, Alishar, Tepe Gawra and other sites as a medium of exchange in the third millennium B.C. in J. Dayton, Money in the Near East before Coinage, Berytus 23 (1974), 41—52. For references to payments in silver bullion in early Demotic texts see G. Mattha, Notes and Remarks on Erichsen's 'Auswahl frühdemotischer Texte', Univ. of Egypt Bull. Fac. of Arts 18.2 (1956), 38.

[1481] The best description of the accuracy of this technique occurs in Theophrastus, De Lapidibus 46. (For the date see most recently P. M. Fraser, Ptolemaic Alexandria, 2. 719—720, n. 7.) The high degree of precision suggested by the passage has received a good deal of comment, see W. Ridgeway, How Far Could the Greeks Determine the Fineness of Gold and Silver Coins?, NC 3 ser. 15 (1895), 104—109; T. Reinach, RN 4 ser. 31 (1928), 155—157; but cf. the scepticism of Theophrastus' statement in J. F. Healy, The Composition of Mytilenean Electrum, Congrès int. de numismatique, Paris (1957), 2.535—536, who also discusses the use of specific gravity in classical Greece. For coin testing in ancient India see S. Bandyopadhyay, Numismatic Notes, in: D. C. Sircar (ed.), Coins, 154—157 (based on the Arthāśāstra).

[1482] Periplus c. 36 (= Frisk, p. 12.12) mentions gold exported from Ommana in Persis to Barygaza.

[1483] Bullion was already used in East Africa while coins were still being imported into India, see Periplus c. 8 (= Frisk, p. 3.26—27): Προχωρεῖ δὲ εἰς τοῦτον τὸν τόπον

(Μαλαω) . . . δηνάριον οὐ πολύ, καὶ χρυσοῦν δὲ καὶ ἀργυροῦν. A number of gold ingots have come to light in Egypt. Of 18 found in 1902 only 3 were saved from the melting pot; cf. F. Kenner, Monatsblatt der numismatischen Gesellschaft in Wien 6.8 (1903), 100.

For the importation of art works in precious metals at various ports on the Indian Ocean see Periplus c. 24 = Frisk, p. 8.7—9) describing the imports to Muza: Τῷ τε βασιλεῖ καὶ τῷ τυράννῳ δίδονται . . . χρυσώματα καὶ τορ[ν]ευτὰ ἀργυρώματα . . . ; so also at Qana, c. 28 (= Frisk, p. 9.16—17): τὰ πλείονα δὲ ἀργυρώματα τετορευμένα καὶ χρήματα τῷ βασιλεῖ, . . . ; at Barbaricum, c. 39 (= Frisk, p. 13.9): Προχωρεῖ δὲ εἰς τὸ ἐμπόριον (Βαρβαρικὴν) . . . ὑαλᾶ σκεύη καὶ ἀργυρώματα καὶ χρῆμα . . . . ; and at Barygaza, c. 49 (= Frisk, p. 16.25—26): Τῷ δὲ βασιλεῖ κατ' ἐκείνους τοὺς καιροὺς εἰσφερόμενα βαρύτιμα ἀργυρώματα . . . . Significantly such imports are lacking for Nelcynda where most coins were imported, c. 56 (= Frisk, p. 18.17—22). The use of gold and silver vessels as a form of bullion is confirmed by the inscriptions they bear indicating their weight. At Taxila three silver plates bore Kharoṣṭhī inscriptions indicating their weight: J. Marshall, Taxila, 2.612, no. 10 = CIInd II, no. 37.4; no. 11 and no. 13 = CIInd II, no. 37.3; cf. on these inscriptions K. W. Dobbins, The Athama Gold Coin and the Reign of Azes, E&W n.s. 22.1/2 (1972), 19—24. Many of the famous Sasanian silver bowls also bear inscriptions indicating their weight; see C. J. Brunner, Middle Persian Inscriptions on Sasanian Silverware, MMJ 9 (1974), 109—121; but the system of weight measurement used remains obscure, see R. N. Frye, BAIPU 1 (1969), 38—39; e.g. a silver bowl from the Foroughi Collection which bears an inscription stating that it was cast from 105 *zuzs*, cf. M. N. Bogoliubov, Serebrianyi sosud s arameiskoi nadpis'iu iz kollektsii Forugi, PalSb 23 (1971), 101—103; a silver cup found in 1970 at Sissian in Armenia bears an Aramaic inscription giving its weight in drachms, A. Perikhanian, Inscription araméenne gravée sur une coupe d'argent trouvée à Sissian (Arménie), REArmén n.s. 8 (1971), 9. For the preference for hoarding silver in the Sasanian period see the comments of R. N. Frye, Sasanian Silver and History, in: C. E. Bosworth (ed.) Iran and Islam (Edinburgh 1971), 256—259. The most important bullion hoard ever found in Central Asia came to light in 1972 at Dalverzin-Tepe and contained gold jewellery and 10 inscribed gold ingots. The Kharoṣṭhī inscriptions (palaeographically dated to the first century of our era) give weights in Attic staters and drachms: M. I. Vorob' Eva-Desiatovskaia, Nadpisi pis'mom Kkharoshkhi na zolotykh predmetakh iz Dal'verzin-Tepe, VDI (1976), 1.72—79 and G. A. Pugachenkova, K otkrytiiu nadpisei Kkharoshti na zolotykh predmetakh Dal'verzinskogo klada, VDI (1976), 1.64—71 (5 of the ingots weigh 870 grams or more each). In Arabia the weight of dedicated statues in gold or silver is also frequently given, A. K. Irvine, JRAS (1964), 24, n. 6. For the equivalence of objets d'art and ingots in medieval Europe see H. van Werveke, Monnaie lingots ou merchandises? Les instrument d'échange aux XIe et XIIe siècles, Annales (ESC) 4 (1932), 453—454, 462—464. But in twelfth century Egypt the bankers accounts from the Cairo Geniza suggest that merchants trading with India relied primarily on gold and silver coinage, see S. D. Goitein, Bankers Accounts from the Eleventh Century A.D., JESHO 9.1/2 (1966), 30, 62.

Talmudic sources indicate that in the early third century a loss of confidence in the imperial silver coinage led to an increased use of gold bullion, see D. Sperber, Gold and Silver Standards: A Study of Rabbinic Attitudes to Roman Coinage, NC 7 ser. 8 (1968), 99—102. Bullion hoards in the Roman Empire also appear to be more numerous than in earlier periods: e.g. a large mid-fourth century hoard from Kaiseraugst containing silver plate, coins and 3 stamped silver ingots, R. Laur-Belart, Ein neuer spätrömischer Silberschatz, Gymnasium 71 (1964), 425—429 and E. Meyer, JSGUF 54 (1968—69), 97—98; at Crasna and Feldiora two fourth century hoards of gold ingots have been found, O. Iliescu, Nouvelles informations relatives aux lingots romains d'or, trouvés en Transylvanie, RESEE 3.1/2 (1965), 269—281; at Enieri in Bulgaria two inscribed silver ingots and 6 inscribed vessels, all buried shortly after A.D. 317, were found, T. Ivanov, Handelsbeziehungen Sirmiums mit Thrakien zur Zeit der Decennalia des Kaisers Licinius, IAI 33 (1972), 236—237 (Ger. res.).

In the early fourth century levies and compulsory purchases of gold and silver bullion are well attested in Egypt, e.g. P.Cair.Isid. 69 (cf. the commentary in C. Préaux, CE 27 [1952], 247—253), P. Thead 33 and P. Merton I.31; for compulsory purchases of bullion, see PSI IV.310, P. Iand. inv. 315 = SB VI.9253 (cf. the commentary in K. Kalbfleisch, Edelmetallbeschaffung, APF 15 [1953], 104—105 and below), P. Oxy. XVII.2106 (cf. A. Segrè, Inflation and its Implication in Early Byzantine Times, Byzantion 15 [1940—41], 275—277), XLIII.2120, P. Panop. Beatty 2.215—221; on the possible distinction between the levy of bullion and the compulsory purchase of the same see J. R. Rea, PSI 4.370 and Imperial Bullion Purchases, CE 49 (1974), 163—174. A tax paid in the form of gold bullion may also have existed, cf. the references to χρυσὸς τελωνικός in P. Panop. 15 and 19. In the Aezani copy of the Price Edict the values of gold coins and bullion are equated, cf. M. Giacchero, Il valore delle monete Dioclezianee dopo la riforma del 301 e i prezzi dell'oro e dell'argento nei nuovi frammenti di Aezani dell'Edictum de Pretiis, RIN 4, ser. 22 (1974), 149—152; but this may be due to special circumstances, see C. Jungck, SM 26 (1976), 26. See also G. Mickwitz, Ein Goldwertindex der römisch-byzantinischen Zeit, Aegyptus 13 (1933), 95—106 who argued that the slowly rising price of gold in late Antiquity should in part be attributed to the export of gold to India. In Roman Egypt even before the third century it was customary to think of jewellery or ornaments of precious metal in terms of their weight as bullion rather than in terms of their artistic value. The evidence for this is found primarily in documents referring to dowries, e.g. BGU IV.1050, 1051, 1052, 1101 and 1104; or reports of loss or theft of such items: e.g. P. Stras. 216, P. Ryl. II.124 and 125; cf. on the latter document in particular and this practice in general, T. Reekmans, Treasure-Trove and Parapherna, in: Hommages à Claire Préaux, 749—754. But hoards of silver bullion and ornaments are rarely found in Egypt, cf. the Ptolemaic silver hoard found at Semanoud, G. Botti, La deuxième trouvaille de Semanoud, BSRAA 1 (1898), 25. In the second century the price of silver bullion on the Coptos market fluctuated freely and this may be connected with the export of bullion to India, for which that town was probably the centre, see P. Giss. 47.28—29: Τὸ ἄσ̣η̣μ̣ον νῦν ἔ̣στ(ιν) (δραχμαί) τξβ. ὡς γὰρ οἶδας, ἐν Κόπτῳ καθ' ἡμέραν διάφοροι γείνονται τιμαί.

[1484] See above pp. 663—665.

[1485] There can be no doubt about this; as I noted above, the importation of *denarii* of Augustus and Tiberius into India is highly unlikely after Nero, because of the shortage of such coins within the Roman Empire, and impossible by the late Flavian period.

[1486] So first R. Sewell, JRAS (1904), 599—602; cf. E. H. Warmington, Commerce², 293, who states outright that Vespasian checked the export of *denarii* to India. Cf. R. E. M. Wheeler, in: Aspects of Archaeology, 372, who suggests that at this time other imports were substituted for coins. So also K. Regling, ZfN 29 (1912), 224 on the decrease in the import of coins into Germany after Marcus Aurelius.

[1487] For example, Oriental luxuries are mentioned frequently by Martial, see VIII.28.14 (pearls); 68.7 (silk); 81.4 (pearls); IX.1.6 (frankincense); 2.9 (pearls); 37.3 (silk); 59, the description of Mamurra's shopping trip in the fashionable shops of the Saepta, mentions table-legs of ivory, tortoise-shell couches and emeralds; 90.16 (frankincense).

[1488] See, for example, the epigraphic evidence for statue weights and costs, burial expenditures and building costs in Africa and Italy collected in R. P. Duncan-Jones, Costs, outlays and *summae honorariae* from Roman Africa, PBSR 30 (1962), 47—115; Idem, Wealth and munificence in Roman Africa, PBSR 31 (1963), 159—177; Idem, The Economy of the Roman Empire (Cambridge 1974), 63—237. Such expenditure appears from the dated inscriptions to reach its height in the second century.

[1489] For references to μαλάβαθρον, ναρδόσταχυς, πέπερι and κόστος in Egyptian documents of this period, see P. Ant. I.32; II.64; BGU I.93; III.953; P. Lips. 102; P. Oxy. VI.921; XII.1429; XXXI.2570; P. Princ. III.155r; 155v; PSI XII.1.1264; P. Strass.

II.102; P. Tebt. II.273; O. Bodl. II.2153. The relative frequency of such references in accounts, medical recipes and tax documents of the fourth century is particularly significant, since at this time the overall number of such published documents is decreasing; cf. the comments of R. Rémondon, L'Égypte au 5e siècle de notre ère: les sources papyrologiques et leurs problèmes, in: Atti dell'XI Congresso Internazionale di Papirologia, Milano 2—8 Settembre, 1965 (Milan 1966), 136—144. For a collection of medical recipes see V. Gazza, Prescrizioni mediche nei papiri dell'Egitto greco-romano, Aegyptus 35 (1955), 86—110; 36 (1956), 73—114 (21 of the first and second centuries; 10 of the third and fourth centuries); further texts: C. Préaux, Les prescriptions médicales des ostraca grecs de la Bibliothèque Bodléenne, CE 31 (1956), 135—148 (= O. Bodl., II.2181—2188, 3 from second or third centuries, 5 from fourth century). For decrease in number of accounts in this period L. Bandi, I conti privati nei papiri dell'Egitto greco-romano, Aegyptus 17.4 (1937), 351—353.

[1490] This is clear from the large volume of the export from the South Indian ports, Periplus c. 56 (= Frisk, p. 18.16—17).

[1491] For the post-Neronian literature see above n. 1487. Also Horace, Ep. II.1.269—270: *deferar in vicum vendentem tus et odores / et piper et quidquid chartis amicitur ineptis*; Ovid, AA II. 417 (pepper).

[1492] Listed above n. 1048.

[1493] As had been argued by U. Wilcken, Schmoller's Jahrbuch 45.1/2 (1921), 103—105, and L. C. West, JRS 7 (1917), 46.

[1494] P. Tebt. II.273 (Tebtunis); P. Oxy. VI.921 (Oxyrhynchus); BGU III.953 (Heracleopolis Magna); also PSI XII.1.1264 (Antinoopolite and Lycopolite nomes).

[1495] For the use of frankincense to treat ailments of the eyes and ears see P. Tebt. II.273 and P. Oxy. II.234. On the medical uses of frankincense and myrrh more generally see G. W. van Beek, BibArch 23 (1960), 82—86. For the use of cinnamon in medical recipes see V. Gazza, Prescrizioni mediche nei papiri dell'Egitto greco-romano, II, Aegyptus 36 (1956), 84; cf. also C. Préaux, Les inscriptions médicales des ostraca grecs de la Bibliothèque Bodléenne, CE 31 (1956), 141—143. The prevalence of eye diseases in Egypt may have created a considerable market for the imported spices which were used as ingredients in many eye-salves. For the use of pepper in such medications see P. Teb. II.273, PSI X.1180 and P. Mich. inv. 482 with commentary on this and earlier texts by L. C. Youtie, Three Medical Prescriptions for Eye-Salves, P. Mich. inv. 482, in: Hommages à Claire Préaux, 559, 561.

[1496] For wine made from myrrh see Pliny, NH XIV.107; but cf. J. André, Murrina «Vin myrrhe»?, AFLA 25 (1951), 45—62, who suggests that *murrina* may have little to do with myrrh; cf. the inscription on a small vase from Egypt: μισγ' ὄνομα Μυρίνης μύρῳ τῷδε published by G. Michaïlidis, Deux vases à inscriptions épigrammatiques trouvés en Égypte, ASAE 57 (1962), 93—94. cf. also NH 108 for wines containing cinnamon or pepper.

[1497] For the extravagant use of spices in funerals see Pliny, NH XII.83: *periti rerum adseverant non ferre tantum annuo fetu quantum Nero princeps novissimo Poppaeae suae die concremaverit.*

[1498] See the list in J. I. Miller, Spice Trade, 26—28. His remarks about dutiable and non-dutiable items and the equations of the prices in Sterling should, of course, be ignored.

[1499] The public archives and private collections of business papers from Venice, Florence, Genoa, as well as the cities of Spain, Southern France and the Netherlands provide a totally different basis on which to construct the economic history of the period than is possessed by the ancient historian. Here documentary information is available for a partial reconstruction of prices paid for Oriental imports over a period of successive years or even months. The western material has within the past two decades been increasingly supplemented by the studies of GOITEIN and others in the important business records, accounts, letters, and contracts, from the Geniza of Fustat or Old-Cairo, which contains a wealth of material pertinent to the India trade of the eleventh to thirteenth centuries. Although the use of analogies from a later period to prove a point is a dangerous procedure, in this case we are faced with a situation involving commerce in the same goods over the same routes; thus with all due caution some of the Medieval evidence may be used to elucidate certain aspects of Rome's trade with the East.

[1500] For example, the biography of the twelfth century merchant Abū'l-'Abbas al-Ḥiǧāzī, who traded with China and Ceylon and lost his entire fleet of merchant ships in a single storm; see S. LABIB, Les marchants Kārimīs en Orient et sur l'Océan Indien, in: M. MOLLAT (ed.), Sociétés, 210. Another famous tale relates how three large ships loaded with merchandise foundered in a storm on a voyage to India, cf. G. F. HOURANI, Arab Seafaring, 118—120. Reports of losses of ships to storms or piracy around Arabia or in the Red Sea are frequently found in the letters from the Cairo Geniza; see S. D. GOITEIN, From the Mediterranean to India: Documents on the Trade to India, South Arabia, and East Africa from the Eleventh and Twelfth Centuries, Speculum 29.2 (1954), 187; cf. 193—194.
Just as in Trimalchio's day a man could move from riches to rags as a result of the sinking of his entire merchant fleet in a storm (see above n. 864), so also the loss of ships owing to storms or warfare is a common occurrence in the Medieval trade in the Mediterranean. Since relatively small numbers of ships were involved, the sinking of a Venetian galley bound from Alexandria laden with pepper could seriously affect the short term price of that commodity in Venice; see F. C. LANE, Andrea Barbarigo, Merchant of Venice, 1418—1449 (Baltimore 1944), 16—17. (For the number of Venetian galleys involved annually in the late fourteenth and fifteenth centuries see E. ASHTON, The Venetian Supremacy in Levantine Trade: Monopoly or Pre-Colonialism?, JEEH 3.1 [1974], 18—21.)

[1501] See F. C. LANE, Andrea Barbarigo, 62 on the *muda* or sailing season. The business letters of the eleventh century merchant house of Ibn 'Awkal from the Cairo Geniza indicate that in the case of oriental products such as lacquer the arrival of a single ship could create great variations in price and market conditions, see N. A. STILLMAN, The Eleventh Century Merchant House of Ibn 'Awkal, JESHO 16.1 (1973), 41—42. The diary of the Venetian Alessandro Magno, who visited Alexandria to purchase pepper in 1561, is also of great interest. He had waited for a month for the arrival of a caravan from the Red Sea port of Tor. But his galley, the 'Corse', chose not to await the autumn caravan from Tor and this set off a wave of buying by the merchants who had come on the ship; the result was a dramatic increase in spice prices, see F. C. LANE, The Mediterranean Spice Trade: Further Evidence of its Revival in the Sixteenth Century, AHR 45 (1940), 581—583, republished in: B. PULLAN (ed.), Crisis and Change in the Venetian Economy (London 1968), 47—50.

[1502] Warfare could close certain routes for a number of years, see F. C. LANE, Andrea Bargarigo, 54—61; cf. I. ORIGO, The Merchant of Prato, Francesco di Marco Datini (New York 1957), 70—71, who notes that wars and other political events are frequently mentioned in the Datini correspondence because of their effect on prices; cf. p. 88 for the effect of war on pepper prices.

[1503] A constant feature of medieval commerce, see F. C. LANE, Andrea Barbarigo, 80—82.

[1504] During the seventeenth century the European demand for pepper was relatively inelastic, consumption running at about 7—8.5 million lbs. annually and any substantial increase in the size of imports by rival Dutch and English companies led to a drastic drop in the market price of pepper; cf. D. K. BASSETT, Dutch Trade in Asia, JSSS 14.1/2 (1958), 111—112.

[1505] Note Pliny's statement on myrrh, NH XII.70: *Pretia ex occasione ementium varia, stactae a 𐆖 III ad 𐆖 L, ...* For the effect of natural disasters see Pliny, NH XII.93 on the price of cinnamon: *pretia quondam fuere in libras denarium milia; auctum id parte dimidia est incensis, ut ferunt, silvis ira barbarorum.* Factors of a similar nature were at work in the Far East. For example, in the Later Han period the over-exploitation of the oyster beds in Ho-p'u province led to a dramatic decrease in the pearl harvest. The situation was only restored after stringent conservation measures by Meng Ch'ang; see E. H. SCHAFER, The Pearl Fisheries of Ho-p'u, JAOS 72 (1952), 156—157.

[1506] For the fluctuation in Medieval and Renaissance pepper prices and the causes of the various price trends see F. C. LANE, Pepper Prices before Da Gama, JEH 28.4 (1968), 590—597; E. ASHTOR, Profits from Trade with the Levant in the Fifteenth Century, BSOAS 38.2 (1975), 254—255; for the prices in Antwerp see H. VAN DER WEE, The Growth of the Antwerp Market and the European Economy, 1.307—320.

[1507] For price fluctuation statistics see F. HEICHELHEIM, On Ancient Price Trends from the Early First Millennium B.C. to Heraclius, Finanzarchiv N.F.15 (1955), 498—511, and IDEM, Syria, ESAR 4.182—188; A. C. JOHNSON, Roman Egypt, 306—321; L. C. WEST, The Cost of Living in Roman Egypt, CPh 11 (1916), 304—314; cf. (with greater emphasis on price stability) D. SPERBER, JESHO 8 (1965), 248—271; ibid., 9 (1966), 187—211; 11 (1968), 233—274; 13 (1970), 1—15; R. P. DUNCAN-JONES, PBSR 30 (1962), 47—115; IDEM, PBSR 33 (1965), 189—306. For seasonal fluctuations of 50 to 100% of date palm prices in Mesopotamia see M. MEULEAU, JESHO 8 (1965), 73—74. A price change of grain in relation to silver of 50% in two months is known from Persepolis in 466 B.C.; R. T. HALLOCK, A New Look at the Persepolis Treasury Tablets, JNES 19 (1960), 94—96.

[1508] But relatively inexpensive when compared with transport by land. For the cost of sea transport in the Mediterranean see E. R. GRASER, The Significance of Two New Fragments of the Edict of Diocletian, TAPhA 71 (1940), 163—174; J. ROUGÉ, Commerce maritime, 369—372; R. DUNCAN-JONES, The Economy of the Roman Empire, 367—368. Shipping costs in the Indian Ocean may have been higher than in the Mediterranean because of the type of ship used. For example, the lateen-rigged dhows require large crews (up to 40 men) to operate them, see A. H. J. PRINS, Persica 2 (1965/66), 2—4, 6—8. For a list of the known shipping charges for vessels on the Nile and its canals see O. M. PEARL, Transport Charges in Egypt in the Era of Inflation, TAPhA 83 (1952), 77. Among other incidental charges involved in the Eastern trade were such items as wages for interpreters: e.g. P. Col. Zen. II.63: θεμίστωι κυβερνήτηι τῆς δεκήρους / π̣ρό̣χρησιν ἀρ(γυρίου) (δραχμὰς) κ/ Δωρίωνι Τρωγοδύτηι εἰς τὸν Ἁθυρ ὀψώνιον / χωρὶς ὧν προεῖχεν χαλκοῦ (δραχμῶν) β̄ τὸ λοιπὸν / ὥστ' ἀπέχειν χαλ(κοῦ) (δραχμὰς) ια / Γλαυκιαι ἑρμηνεῖ εἰς ἀγοράσματα χαλ(κοῦ) (δραχμὰς) ιβ; PSI IV.332, an account of payments includes: ἑρμηνεῖ τῶι ὁδηγήσαντι ἐπὶ τὰ σκόρδα. In general on interpreters in Egypt see R. TAUBENSCHLAG, The Interpreters in the Papyri, in: Charisteria Thaddaeo Sinko (Warsaw 1951), 361—363. See also W. PEREMANS, Über die Zweisprachigkeit im ptolemäischen Ägypten, in: Festschrift F. Oertel, 49—60, who argues that almost no one in Ptolemaic Egypt spoke more than one language, hence the frequent need for interpreters.

[1509] We possess a single bottomry loan for a voyage in the Red Sea, SB III.7169, see above n. 1310. The text is extremely fragmentary and little can be said with certainty. If the loan was not repaid within 50 days after the ship's return a punitive interest rate of 2%/month was levied (ll.15—16). No interest was charged on the loan itself, possibly in return for a share of the profits; cf. U. WILCKEN, ZÄS 60 (1925), 94—96. The pledging of the ship as security is the more common practice in Demosthenes (Or. 32.14; 33.62 and is also attested in P. Gr. Vindob. 19792), than the furnishing of sureties. See L. CASSON, New Light on Maritime Loans, in: Symbolae Raphaeli Taubenschlag dedicatae (Warsaw 1957), 89—93 = SB VI.9571. For interest rates on maritime loans in

Ptolemaic Egypt see also R. Bogaert, CE 40 (1965), 146—151, who notes that the provision that the creditors receive a share of the profits in SB III.7169 has its parallels in medieval Genoese contracts as a subterfuge to avoid the ecclesiastical condemnation of usury (see U. Wilcken, ZÄS 60 [1925], 99, who restores line 24: κατὰ τὰ ἐ]πιβάλλοντ' αὐτοῖς ἐκ τοῦ αὐτοῦ πλόο[υ); see on this C. B. Hoover, The Sea-Loan in Genoa in the Twelfth Century, QJE 40 (1926), 502—506; cf. J. T. Noonan, The Scholastic Analysis of Usury (Cambridge, Mass. 1957), 129—132, 151—152. In Roman Egypt the legal rate of interest could not exceed 12%, cf. BGU V. § 105: Τ̣ῶν δανισάντων πλέον δ[ραχμ]ι̣α̣ίου τόκ̣[ο]υ τὸ ἥμι̣σ[υ] τ̣ῆ̣ς [ο]ὐ̣σ̣ία[ς] ἀναλαμβάνεται καὶ τῶν δ[ανισα]μ̣ε̣νων τὸ τέταρτον. Pestman, who studied the problem of loans which appear to bear no interest (but not in reference to our document) concluded that such loans frequently do not mention interest since it is to be paid in some other way or else calculated into the principle, see P. W. Pestman, Loans Bearing no Interest?, JJP 16/17 (1971), 26—27. The 24% penalty rate in SB III.7169 corresponds exactly with the maximum rate of ordinary interest permitted in the Ptolemaic period, see J. Herrmann, Zinssätze und Zinsgeschäfte im Recht der gräko-ägyptischen Papyri, JJP 14 (1962), 24—25. The normal penalty for failure to repay a loan at the specified time was a fifty per cent increase in the amount of the principle although exceptions to this could be written into the contract, see J. D. Thomas, Notes on Documentary Papyri, ZPE 8.3 (1971), 283—284. SB III.7169 with its apparently low finance charges does not, of course, give us any indication of rates in the Roman period. It is however, a fundamental feature of Roman law relating to bottomry contracts that, in light of the risk involved, no maximum rate of interest was enforced on such loans, see K. Visky, Das Seedarlehen und die damit verbundene Konventionalstrafe im römischen Recht, RIDA 3 ser. 16 (1969), 390—393.

[1510] The French and British wooden navies of the colonial period suffered heavily from service in tropical waters; see R. G. Albion, Forests and Sea Power: The Timber Problem of the Royal Navy, 1652—1826 (Cambridge, Mass. 1926), 11. It is uncertain where and with what ships on the Red Sea were built. Lewis on the basis of the Coptos Tariff (OGIS 674.29—30: ἱστοῦ δραχμὰς εἴκοσι κέρατος δρα/χμὰς τέσσαρες ....) argues that teak masts were imported from India, N. Lewis, TAPhA 91 (1960), 137—138. This seems unlikely in this instance. Aelius Gallus built 80 warships and 130 transports at Cleopatris in preparation for his invasion of Arabia (Strabo XVI.4.23); cf. recently P. Oxy. XXXVII 2820.5—10: τὸ] τ̣ῆ[ς / Κλεο]πάτρας ναυ̣[τικὸν] / μετὰ τὸν ἐκε[ίνης] / θάνατον ὥσπ[ε]ρ / εἰκὸς ἐξημέλ[η]/μένον .... See text with restorations in N. Lewis, GRBS 16.3 (1975), 298 (see above n. 967). Roman shipwrights do appear to have been familiar with the use of lead sheeting to protect the portions of the hull of the ship which were permanently submerged; see for example the lead sheets covering the hull of a first century B.C. wreck off Madrague de Giens, P. Pomey, Hyères (Var.), IJNA 5.3 (1976), 261. Modern Arab dhows use a mixture of tallow and lime to coat their bottoms and this seems to be relatively effective, see R. L. Bowen, American Neptune 9.2 (1949), 108—109 who also notes that most Arab ships are built of teak and thus capable of surviving in tropical waters for many decades. That imported Indian teak was probably used to build Arab ships in Antiquity is indicated by Periplus c. 36 (= Frisk, p. 12.6—7).

Little thought is given to where the timber for such ship building comes from. In Antiquity several areas near the Red Sea now devoid of forest cover, were forested: so, for example, the forest of ancient Edom north of Petra, M. B. Rowton, JNES 26 (1967), 266. Kirk has stated that the teak forests of Malabar, the mangrove swamps of the East African coast and palm groves of the Laccadive and Maldive islands were the major sources of timber for the construction of western ships engaged in the Indian Ocean trade; see W. Kirk, JAH 3.2 (1962), 266 (on Western knowledge of these islands see Ptolemy, Geog. VII.4.11 with the comments of J. Partsch, BKSGW 68.2 [1916], 32—33). For the distribution of mangrove stands on the shores of the Erythraean Sea see H. Bretzl, Botanische Forschungen des Alexanderzuges (Leipzig 1903), 23—76.

[1511] In general on the high cost of overland transport in Antiquity see C. A. Yeo, Land and Sea Transportation in Imperial Italy, TAPhA 77 (1946), 221—231, based on Cato;

R. DUNCAN-JONES, The Economy of the Roman Empire, 368 on the Edict of Diocletian. An inscription from Palmyra provides us with a figure for unspecified expenses of a caravan: 300 *aurei*. The text records a dedication to the *synodiarch* Taimarso by οἱ σὺν [αὑτῷ ἀ]ναβάντες [ἀπὸ] / Σπασίνου Χάρα[κος ἔμποροι in gratitude for ἀφειδήσαν]/τι αὑτοῖς χρυσᾶ παλαιὰ δηνάρια / τριακόσια ἀναλωμάτων ... Inv. III.28. For χρυσᾶ παλαιὰ δηνάρια see above n. 882. The text, however, is of little assistance, since it tells us nothing about either the use to which the money was put or the size of the caravan. For a mosaic from Apamea showing a laden camel caravan on the move see F. MAYENCE, BMRAH 3 ser. 5.1 (1933), 4, fig. 4. A relief at Dura shows a religious procession bearing the symbols of divinities on the backs of a camel, S. B. DOWNEY, A Camel Procession from Dura Europos, AAS 20 (1970), 139—140.

For laden camals depicted on Palmyrene *tesserae* see H. INGHOLT, H. SEYRIG and J. STARCKY, Recueil des tessères de Palmyre, BAH 58 (Paris 1955), nos. 58, 87, 117, 178 and 248.

Where deserts had to be traversed the necessity to bring both water and food from a distance multiplied the expenses involved. For the cost of construction of a well and cistern complex at Dedan in Arabia see W. CASKEL, Lihyan, no. 69; the inscription mentions a payment of 40 *sil'āt* (silver drachmae. The sum may be twice as large, cf. CASKEL, p. 108). In the Eastern Desert operational costs must have been compounded by the need to import almost everything necessary to support life to the ports of Myos Hormos and Berenice: e. g. for shipment of πυρός to these ports see O. Petr. 223 (9 art.); 228 (30 art.); 229 (3 art.); 233 (9 art.); 241 (6 art.); 248 (12 art.); 253 (3 art.); 256 (3 art.); 260 (10 art.); 266 (12 art.); 269 (15 art.); 271 ($8^{1}/_{2}$ art.); 276 (3 art.); 277 (3 art.); 278 (12 art.); 279 (3 art.); 283 (6 art.); O. Bodl. II.1970 (37 art.) (all to Myos Hormos); O. Petr. 224 (1 art.); 230; 231 (24 art.); 250 ($16^{1}/_{2}$ art.); 251 (1 art.); 255; 294 (2 art.) (all to Berenice) and 232 (132 art.). Shipments of κριθή are rarer: O. Petr. 220 (8 art.); 221 (4 art.); 280 (6 art.); 285; O. Bodl. II.1971. Most of these, unlike the πυρός, are delivered εἰς τὸν δημόσιον θησαυρόν, so O. Petr. 280, 285, 288, 291 (κριθή should probably also be read in lines 5—6 of O. Petr. 292). A clue that the Red Sea ports suffered from the excessively inflated prices charged in marginal frontier areas with a booming economy in all eras may be found in OGIS 674 (Coptos Tariff): γυναικῶν πρὸς ἑταιρισ/μὸν δραχμὰς ἑκατὸν ὀκτώ / .... The high charge is certainly not a piece of moral regulation but a reflection of what the traffic will bear; cf. A. ANDRÉADÈS, in: Mélanges Glotz, 1.20, n. 4. In addition, a license issued on a daily basis was apparently also required for nonresident prostitutes, see WO II.1157 and W. MÜLLER, APF 16 (1958), 212—213, no. 33.

Long stretches of waterless waste like the Tarim Basin posed particular problems. Food and water for both men and animals had to be carried and that meant that one or more additional camels were needed to carry these necessities for each camel carrying trade goods. See E. CHAVANNES, Documents chinois, no. 452, a Han document which records the issue of fodder to an officially owned camel for a journey to Chien-tu; cf. M. LOEWE, TP 2ser. 50 (1963), 172. For further details on transportation difficulties here see above n. 620.

The caravan trade of Palmyra is so well attested that another means of transport has been neglected. The Euphrates had been the major means of transporting goods in Mesopotamia for at least 3,000 years before the advent of the present era, see the survey of documentary material in A. FINET, L'Euphrate, route commerciale de la Mésopotamie, AAS 19 (1969), 37—48. The Euphrates, however, while it is less subject to high flooding than the Tigris, suffers from an enormous loss of water through evaporation, such that less than 2% of the precipitation from its watershed reaches the mouth of the river (see for flow and precipitation statistics G. B. CRESSEY, The Shatt al-Arab Basin, MEJ 12 [1958], 448—460) and hence most boat traffic follows one or the other of the canals that run into the Tigris above and below Seleucia. Such traffic is, however, almost exclusively one way, conducted on rafts or wicker boats of various sorts. For the numerous references in the Babylonian Talmud to such river traffic see J. JOËL, MGMJ 16 (1867), 376—381 and J. NEWMAN, The Commercial Life of the Jews in Babylonia, 44. The Euphrates was also used to carry the supplies of Roman armies invading Babylonia:

e.g. Septimius Severus, Dio LXXVI.9.3 and Julian, Ammianus XXIII.3.9, cf. L. Dillemann, Syria 38 (1961), 151—152 and 153—158 (on the Naarmalcha and other canals) and R. T. Ridley, Notes on Julian's Persian Expedition (363), Historia 22.2 (1973), 318—319. That the merchants of Palmyra also availed themselves of this means of transport is indicated by a dedication to Septimius Hairan by τὸ / συμπόσιον σκυτ(έ)/ων καὶ ἀσκοναυτο/ποιῶν (A.D. 257/258), see H. Seyrig, Les fils du roi Odainat, AAS 13 (1963), 161.

[1512] HHS 118; cf. E. Chavannes, TP 2 ser. 8 (1907), 184. which notes that the merchants of *Ta Ch'in* are honest, have no double prices and make a profit of ten to one. The account in the 'Chin-shu' repeats the information in the 'HHS' but gives the profit as one hundred-fold. Accepted by W. H. Schoff, Proc. Num. and Ant. Soc. of Philadelphia (1913), 60; E. Leider, Alexandreia, 62; J. I. Miller, Spice Trade, 224: "Chinese sources confirm Pliny's figures." In general on the reliability of numbers in Chinese sources see the study of pseudo-numbers by Lien-sheng Yang, Numbers and Units in Chinese Economic History, HJAS 12 (1949), 218—219. See also above n. 849 for the utopian character of this account.

[1513] See above n. 992.

[1514] For the perfume industry in Puteoli and Capua see above n. 818.

[1515] M. Rostovtzeff, APF 4 (1907/08), 307 suggested that the tariff in the Egyptian ports was not above 10%. This is no longer accepted. The case for the existence of a uniform 25% duty charged ad valorem along the entire Eastern frontier and Red Sea coast is argued persuasively by S. J. de Laet, Portorium, 307—309; cf. the evidence for a 25% duty on the Euphrates frontier, H. Seyrig, Syria 22 (1941), 203—266. Now generally accepted: J. Schwartz, Annales (ESC) (1960), 42—43. For the relevant documents see above pp. 771—781.

[1516] A tax designated ἐρημοφυλακία was charged to cover the cost of protection on the desert routes between the Oases, the Fayum and the Nile Valley. See L. Fiesel, GöttNachr (1924), 2.76—79; S. L. Wallace, Taxation, 272; S. J. de Laet, Portorium, 325—327. See also the charges mentioned in the Coptos Tariff, OGIS 674 = IGR 1163. 21—26: πιττακίου καμήλων ὀβολὸν ἕνα / σφραγισμοῦ πιττακίου ὀβολοὺς δύο / πορείας ἐξερχομένης ἑκάστου / πιττακίου τοῦ ἀνδρὸς ἀναβαίνον/τος δραχμὴν μίαν γυναικῶν / πασῶν ἀνὰ δραχμὰς τέσσαρας / . . . Cf. in P. Grenf. II.58 (A.D. 175), the issuance of a receipt by an agent of the [πραγ]ματευτὴς ἐρημοφυλακίας Προσωπίτου καὶ ['Αρσινοιτου ?] for the payment of 24 drachms ὑπὲρ συμβόλων καμήλων; cf. WO I, pp. 394—395, where a parallel unpublished text is cited: ὑπὲρ συμβόλων καὶ παροδίου καμήλων τριῶν δραχ(μάς). Three further receipts for ἐρημοφυλακία are published by Z. Borkowski, JJP 16/17 (1971), 137—138.

[1517] OGIS 674 = IGR 1163 lists charges for ἀποστόλιον for various classes of individuals (ll.10—14): κυβερνήτου 'Ερυθραϊκοῦ δρα/χμὰς ὀκτὼ⟨ι⟩ . . . . . / πρωρέως δραχμὰς δέκα / [φυλ]άκου δραχμὰς πέντε / [να]ύτου δραχμὰς πέντε /. See literature cited above n. 990.

[1518] In general on internal tolls in Egypt see T. Reil, Beiträge, 20—21; L. Fiesel, Geleitzölle im griechisch-römischen Ägypten und im germanischen Abendland, GöttNachr (1924), 2.57—103; N. Y. Clausen, Aegyptus 9 (1928), 240—280; O. W. Reinmuth, CPh 31 (1936), 146—162; S. L. Wallace, Taxation, 255—276; S. J. de Laet, Portorium, 312—330. For the levy λιμὴν Μέμφεως collected on goods moving from the Fayum to Memphis see the list of references in L. Fiesel, GöttNachr (1924), 2.60—71; S. L. Wallace, Taxation, 462, n. 27; S. J. de Laet, Portorium, 312—324, who suggests that the tax λιμὴν Μέμφεως was established as a toll between the Delta on the one hand and the Heptanomoi and the Arsinoite nome on the other at the same time as the former was established as an *epistrategia*. For the accounts kept by the collectors of this tax see above pp. 772—773. Within the Arsinoite nome a 3% ad valorem tax on all exports and imports is attested. The tax is referred to in numerous documents as ρ' και ν' and with its full title in P. Grenf. II.50b ρ' και ν' νομαρχίας 'Αρσινοίτου. See list of documents in S. L. Wallace, Taxation, 466, n. 67; cf. T. Long, P. Hibeh 154: Export of Wine, BASP 6.2 (1969), 41—42.

[1519] See OGIS 629 (see details above n. 581). Here even the provisions a caravan usually carried (cf. above n. 1511) were taxable: 'Ο αὐτὸς πρά[ξ]ει γόμου πυρικοῦ, οἰνικοῦ, ἀχύ/ρων καὶ τοιούτου γένους ἑκάστου γόμου / καμηλικοῦ καθ' ὁδὸν ἑκάστην Ӿ α' (lines 86—88); cf. H. Dessau, Hermes 19 (1884), 512. For internal tolls in Judaea see S. J. de Laet, Portorium, 341—344.

[1520] For the tax station on the Nile at Schedia see Strabo XVII.1.16: ἐνταῦθα δὲ καὶ τὸ τελώνιον τῶν ἄνωθεν καταγομένων καὶ ἀναγομένων· οὗ χάριν καὶ σχεδία ἔζευκται ἐπὶ τῷ ποταμῷ, ἀφ' ἧς καὶ τοὔνομα τῷ τόπῳ. The station was guarded in the Ptolemaic period by troops: OGIS 738: οἱ ἀποτεταγμένοι / ἐπὶ Σχεδίᾳ στρατιῶται, ὧν / ἡγεμὼν καὶ χιλίαρχος .... A late Ptolemaic dedication by a group of cavalrymen found at Kom Turuga (SEG XX.509) has led to the suggestion that a garrison also guarded the canal linking the Nile (near Naucratis) with lake Mareotis. See P. M. Fraser, Berytus 13.2 (1960), 146. For a similar station between Upper and Lower Egypt see Strabo XVII.1.41: 'Εξῆς δ' ἐστὶν 'Ερμοπολιτικὴ φυλακή, τελώνιόν τι τῶν ἐκ τῆς Θηβαΐδος καταφερομένων, cf. Agatharchides, frag. 22 (GGM I, p. 122): πέμπτος ὃν οἱ μὲν Φυλακὴν, οἱ δὲ Σχεδίαν καλοῦσιν. 'Εν ταύτῃ τῶν ἄνωθεν καταγομένων εἰσπράττονται καὶ τιθέασι τὸ τέλος. This customs barrier goes back as far as the Ancient Kingdom; see H. Kees, GöttNachr (1932), 91, 97. U. Wilcken, APF 3.2 (1903/06), 193—194 suggests that the tax regulations in Chrest. Wilck. 273 refer to Schedia, but cf. S. L. Wallace, Taxation, 266—267 and S. J. de Laet, Portorium, 322—323, who attribute the document to the λιμὴν Μέμφεως. Also on the φυλακή at Hermopolis see C. Préaux, L'économie royale, 351; S. L. Wallace, Taxation, 461, n. 21; S. J. de Laet, Portorium, 312. For receipts paid ἐν 'Ερμώνθει ἐξαγωγικοῦ see WO II.801, 806; cf. O. Bodl. II.1087, 1088.

[1521] A tax levied to maintain the river squadron is attested for Syene-Elephantine (WO II.48, 87, 89—92, 104, 108; O. Bodl. II.871—873) and Thebes (WO II.439—440, 507, 1241, 1408, 1413) for the period Vespasian to Antoninus Pius. For ὑπὲρ ποταμοφυλακίδων see WO I.282—285; cf. also taxes paid ὑπὲρ στατίωνος ποταμοφυλακίδων (WO II.145—147, 273, 278, 293 discussed ibid. pp. 294—295). For ὀψώνιον (ναυτῶν) ποταμοφυλακίδος see receipts from Elephantine, e. g. O. Ash. 16; O. Brüss-Berl. 34 (A.D. 116); cf. ὀψώνιον φυλάκων Νό(του) καὶ Λι(βὸς) in O. Bodl. II.818; also receipts for payments ὑπ(ὲρ) ὀψω(νίου) φυλ(άκων) Χά(ρακος) or ὑπ(ὲρ) σκ(οπέλων) Χά(ρακος) in O. Bodl. II.819—824, 826, 830, 831, 834; cf. 828, 837; also ὑπ(ὲρ) φυλ(άκων) καὶ κυνηγ(ίδων) 'Αγο(ρῶν) Βο(ρρᾶ) in O. Bodl. II.825, 827, 832, 833, 835, 836; cf. 829 ὑπ(ὲρ) ποταμο(ῦ) (φυλακίδων) 'Αγο(ρῶν) Νό(του). For the harbour tax at Syene see O. Brüss-Berl. 4 (A.D. 127/128), a receipt issued by ὁ ἀσχολούμ(ενος) τὴν ὁρμοφυλ(ακίαν) Σοήνης; cf. above n. 899. For receipts ὑπ(ὲρ) μερισμ(οῦ) ποταμοφυλ(ακίδος) see also W. Müller, APF 16 (1958), 206—208, nos. 25—26; cf. O. Harvard 2. Such troops and guards as were provided for by these taxes no doubt also assisted in their collection and in the collection of various other exactions made along the Nile; for the stationing of troops at Schedia see A. Schiff, Inschriften aus Schedia (Unterägypten), in: Festschrift O. Hirschfeld, 386—387.

For the πεντηκοστή or 2% toll attested for a number of places in the Thebaid see O. Camb. 140; O. Bodl. II.1082—1086, 1089—1093. See S. L. Wallace, Taxation, 270—271, who argues that the πεντηκοστή mentioned in the above documents is simply the πεντηκοστὴ ὠνίων which is otherwise attested at Thebes (e. g. WO II.1056, 1076; O. Bodl. II.1098). Cf. rejection of this by S. J. de Laet, Portorium, 328, n. 2.

[1522] See S. J. de Laet, Portorium, passim. See also H. W. Pleket, Mnemosyne 4 ser. 11 (1958), 128—135.

[1523] See above pp. 771—781.

[1524] The literary evidence for Indian customs and tolls (*sulka*) is collected in S. K. Maity, Economic Life in Northern India in the Gupta Period^2, 89—91, who notes that *sulka* could be taken as the royal share of the merchandise carried. A single early inscription from Goḍavāya, Ceylon mentions customs dues (*suka*) levied at the ancient port of Goḍapavata. The text is palaeographically dated to the first or second century; see S. Paranavitana, Epigraphical Summary, Ceylon Jour. of Sc. 2.3 (1933), 178 no. 586.

[1525] Pliny, NH XII.68: *non dant ex murra portiones deo, quoniam et apud alios nascitur; regi tamen Gebbanitarum quartas partes eius pendunt*; for charges on frankincense see NH XII.63—65: *Tus collectum Sabotam camelis convehitur, porta ad id una patente; degredi via capital reges fecere. ibi decumas deo quem vocant Sabin mensura, non pondere, sacerdotes capiunt, nec ante mercari licet; inde inpensae publicae tolerantur, nam et benigne certo dierum numero deus hospites pascit. evehi non potest nisi per Gebbanitas, itaque et horum regi penditur vectigal ..... sunt et quae sacerdotibus dantur portiones scribisque regum certae, sed praeter hos et custodes satellitesque et ostiarii et ministri populantur: iam quacumque iter est aliubi pro aqua aliubi pro pabulo aut pro mansionibus variisque portoriis pendunt, ut sumptus in singulas camelos 𐆖 DCLXXXVIII ad nostrum litus colligat, ...* For royal control of commerce in southern Arabia see above n. 1241.

[1526] Cf. above n. 747.

[1527] For the many charges involved in a journey by land or river in Egypt see the private transport accounts P. Oxy. XIV.1650, 1650a, 1651, and 1652. The numerous tolls and equally onerous surtaxes could quickly mount up to very considerable sums; cf. S. J. de Laet, Portorium, 321.

[1528] See above pp. 643—647, 649—650.

[1529] The date of the arrival of iron in the North has long been the subject of controversy. The earliest iron slag comes from sites such as Hastinapur, see B. B. Lal, Excavations at Hastinapur and other Explorations in the Upper Ganga and Sutlej Basins 1950—1952: New Light on the Dark Age Between the End of the Harappa Culture and the Early Historical Period, AI 10/11 (1954/55), 97. It has been argued that the use of iron began in the tenth century B.C. in the Ganges Valley and spread to Gujarat and Central India by the seventh to fourth centuries; see B. R. Subrahmanyana, Appearance and Spread of Iron in India — an Appraisal of Archaeological Data, JOIB 13.4 (1964), 349—357; cf. R. E. M. Wheeler, Charsada (Oxford 1962), 33—34 argued for an arrival date late in the sixth century under the influence of the Persian conquest of northern India. Wheeler's conclusions have been challenged in a particularly offensive article by D. D. Kosambi, The Beginning of the Iron Age in India, JESHO 6 (1963), 309—318, who prefers the greater chronological uncertainties of the literary evidence and favours a date of c. 800—700 B.C. for the advent of iron. An even earlier date, c. 1000 B.C., is argued in S. D. Singh, Iron in Ancient India, JESHO 5 (1962), 212—216. The advent of iron is closely connected with that of Northern Black Polished Ware whose date also is disputed. Some of the dates given for this pottery may also be too early; for example, at Rajgir the strata containing NBP Ware were dated c. 600 B.C. but two C^{14} readings from the site lower this by at least 300 years: 200 B.C. ± 100, see S. Kusumgar, D. Lal and R. P. Sarna, Tata Institute Radiocarbon Date List I, Radiocarbon 5 (1963), 280—281; cf. on this site, B. B. Lal, AI 10/11 (1954/55), 8—138. At Maheshwar and Navdatoli the strata in which NBP Ware begins have been assigned to the fifth century B.C., see H. D. Sankalia et al., The Excavations at Maheshwar and Navdatoli (Poona 1958), 22; cf. N. Ahmadi, On the Local Coins of Maheshwar and Navdatoli Excavations, in: A. K. Narain (ed.), Seminar Papers on the Local Coins of Northern India, c. 300 B.C. to 300 A.D. (Varanasi 1968), 89—90. Further south at Nasik the NBP Ware level has been assigned to the fourth century B.C., see H. D. Sankalia and S. B. Doe, Report on Excavations of Nasik and Jorwe (Poona 1955), 6; cf. T. N. Roy, Dating of Local Coins on the Sites of Godavari-Pravara System, in: A. K. Narain (ed.), Seminar Papers, 97—98 and S. P. Gupta, C^{14} Dates Determining the Chronology of NBP Ware and Punch-

Marked Coins, in: A. K. Narain and L. Gopal (eds.), Seminar Papers on the Chronology of the Punch-Marked Coins (Varanasi 1966), 41—42, who suggests approximate limits of 500—50 B.C. At Hastinapur the radiocarbon readings from the site provide an even later time bracket: c. 340 to 50 B.C., see K. N. Dikshit, The Allahapur Evidence and the Painted Grey Ware Chronology, in: D. P. Agrawal and A. Ghoshi (eds.), Radiocarbon and Indian Archaeology (Bombay 1973), 151—152. At Eran the latest Chalcolithic level of the site produced a C-14 date of 700 B.C., see U. V. Singh, Eran — A Chalcolithic Settlement, BAIHA 1 (1967), 37. Further east in Assam, West Bengal and Bihar the Iron Age, from presently available data, appears to have arrived several centuries later, see M. C. Goswami, A Report on an Iron Celt from Garo Hill, BDAGU 1 (1972), 97—98; A. D. Ghosh and D. K. Chakrabarti, Prehistoric Metal Stage in West Bengal, BCRI 7.1/2 (1968), 112—122 (on Iron Age levels at Pandu Rajar Dhibi, Nanur, Mahisdal, Haraipur, Chirand and Sonpur).

For coinage the problem is equally difficult. Most of the evidence comes from Taxila and Afghanistan. For the chronology of the coins the 1924 hoard from the Bhir Mound at Taxila, which contained 1,167 silver coins including a worn Persian *siglos* and three fresh Greek coins, two of Alexander the Great and one of Philip Aridaeus, is important. The hoard was published by E. H. C. Walsh, Punch-Marked Coins from Taxila, Mem ASI no. 59 (Delhi 1939) and J. Marshall, Taxila I.105—106, 751—754, 843—852 (by E. H. C. Walsh); cf. P. L. Gupta, The Silver Punch-Marked Coins from Taxila, JNSI 11.2 (1950), 114—146, a new classification of the 1924 hoard; Idem, Some Observations on the Punch-Marked Coins Based on the Study of Taxila Hoard of 1924, JNSI 12.2 (1950), 136—150; N. Ahmad, The Bearing of Taxila Hoards on the Chronology of the Punch-Marked Coins, in: A. K. Narain and L. Gopal (eds.), Chronology, 86—111; Idem, The Bearing of Excavation on the Chronology of Local Coins at Taxila, in: A. K. Narain (ed.), Seminar Papers, 185—187. Stratigraphic attempts at a solution are circular. They must ultimately rely on the date assigned to NBP Ware (see above), e. g. S. C. Ray, Archaeological Evidence on the Date at (sic) Punch-Marked Coins, in: A. K. Narain and L. Gopal (eds.), Chronology, 30—31, 37.

[1530] Chronology here varies depending on the date accepted (see above) for the arrival of iron in the North. Usually it is assumed that iron arrived in the South about two centuries after it arrived in the North. Recent excavations at two Deccan sites, Sonegaon and Inamgaon, have suggested that the last phases of the Deccan Chalcolithic period (i. e. Jorwe Culture) may be traced as late as c. 700/600 B.C., see M. K. Dhanalikar, Development and Decline of the Deccan Chalcolithic, in: D. P. Agrawal and A. Ghosh, Radiocarbon and Indian Archaeology (Bombay 1973), 145. For the time lag between North and South see S. B. Deo, The Dating of Megaliths in Maharashtra: Evaluation of Some New Evidence, in: D. P. Agrawal and A. Ghosh (eds.), op. cit., 134. At Nevasa iron appears to have been introduced in period IV and does not come into common use until period V, the Indo-Roman phase of the site, see H. D. Sankalia, S. B. Deo, Z. D. Ansari and S. Ehrhardt, From History to Pre-History at Nevasa, 1954—1956 (Poona 1960), 421—424, 439—440. Cf. B. K. G. Rao, Megalithic Culture in South India (Prasaranga 1972), 265—268 who in his reconstruction of this South Indian culture stresses the abundance of associated iron finds.

[1531] At Sengamedu in the South Arcot District the megalithic ware actually overlaps with the intrusive Rouletted Ware, N. R. Banerjee, The Excavations at Sengamedu, March of India 8.2, no. 8 (1956), 43—45. So also at Brahmagiri, R. E. M. Wheeler, AI 4 (1947/48), 200—203.

[1532] Periplus c. 56 (= Frisk, p. 18.17—22): Προχωρεῖ δὲ εἰς αὐτὴν .... χρυσόλιθα, ἱματισμὸς ἁπλοῦς οὐ πολύς, πολύμιτα, στῖμι, κοράλλιον, ὕελος ἀργή, χαλκός, κασσίτερος, μόλιβος, οἶνος δὲ οὐ πολύς. ὡσεὶ δὲ τοσοῦτον, ὅσον ἐν Βαρυγάζοις, σανδαράκη, ἀρσενικόν, σῖτος δὲ ὅσος ἀρκέσει τοῖς περὶ τὸ ναυκλήριον διὰ τὸ μὴ τοὺς ἐμπόρους αὐτῷ χρῆσθαι. E. H. Warmington, Commerce^2, 60,265 cites a reference in Tamil poetry to the import of Roman wines. The passage in question, in Nakkīrar Pu Ram 56.17—20, contains a reference to *taṇkama tē Ral*. The meaning of *tē Ral* is uncertain and it occurs in three other passages in Tamil poetry, Nakkirar Pu Ram 24.32, Perunara Rupp 157, and Madureikkanji 780, meaning a scented liquid. The identification of the term as Mediterranean wine is doubtful, see discussion in P. MEILE, JA 232 (1940), 103—105.

[1533] Cf. Periplus c. 39 (= FRISK, p. 13.7—9) on the imports at Barbaricum: Προχωρεῖ δὲ εἰς τὸ ἐμπόριον ἱματισμὸς ἁπλοῦς ἱκανὸς καὶ νόθος οὐ πολύς, πολύμιτα καὶ χρυσόλιθον καὶ κοράλλιον καὶ στύραξ καὶ λίβανος καὶ ὑαλᾶ σκεύη καὶ ἀργυρώματα καὶ χρῆμα, οἶνος δὲ οὐ πολύς; c. 49 (= FRISK, p. 16.20—28) lists the imports to Barygaza: Προχωρεῖ δὲ εἰς τὸ ἐμπόριον οἶνος προηγουμένως Ἰταλικὸς καὶ Λαοδικηνὸς καὶ Ἀραβικὸς καὶ χαλκὸς καὶ κασσίτερος καὶ μόλυβος, κοράλλιον καὶ χρυσόλιθον, ἱματισμὸς ἁπλοῦς καὶ νόθος παντοῖος, πολύμιται ζῶναι πηχυαῖαι, στύραξ, μελίλωτον, ὕελος ἀργή σανδαράκη, στῖμι . . . . . Τῷ δὲ βασιλεῖ κατ᾽ ἐκείνους τοὺς καιροὺς εἰσφερόμενα βαρύτιμα ἀργυρώματα καὶ μουσικὰ καὶ παρθένοι εὐειδεῖς πρὸς παλλακείαν καὶ διάφορος οἶνος καὶ ἱματισμὸς ἁπλοῦς πολυτελὴς καὶ μύρον ἔξοχον.

[1534] The euphoric descriptions of the prosperity of the South in Antiquity which appear in some modern works are unsubstantiated by the evidence, e. g. V. PRAKASH, Coinage of South India, 5—6. Even in the Mediaeval period southern India was economically backward; gold and silver coinage was rare; V. PRAKASH, Coinage of South India, 55—66 on the coinage of the Pandyas. A difficulty here is the widely held assumption that coinage is required for commerce, see e. g. S. K. MAITY, Currency and Exchange in Ancient India, in: D. C. SIRCAR (ed.), Coins, 14—15, 18; B. SRIVASTAVA, Bearing of Trade and Commerce on the Origin of Punch-Marked Coins, in: A. K. NARAIN and L. GOPAL (eds.), Chronology, 130: "coin is the index of trade". It is therefore necessary to rely on evidence such as the late arrival of iron and the late development of major urban centres in judging the backwardness of southern India.

[1535] At Meroe the use of iron is known by the sixth century B.C., apparently as an import, and appears in the tombs at Napata. Iron-smelting operations on a large scale are attested from Meroe, Kerma, Napata and the island of Argo from the first century B.C. onwards, when large mounds of slag appear at all these sites. But throughout the Meroitic period iron appears to be relatively rare in tombs until the post-Meroitic cemeteries of Ballana and Qustul (on the date of these see below n. 1723). This reconstruction is proposed by G. A. WAINWRIGHT, SNR 26 (1945), 5—36. The chronological framework is subject to criticism, since it relies on the conjectural dates proposed by REISNER (see above n. 897 and n. 1184). For the slag mounds see A. H. SAYCE, LAAA 4 (1911), 55—56, who hyperbolically terms Meroe "the Birmingham of ancient Africa". But primitive methods of iron ore reduction tend to leave a disproportionate quantity of slag for the small amount of refined metal produced, see S. V. PEARCE, The Appearance of Iron and Its Use in Protohistoric Africa (London 1960), 15—16. The importance of the Meroitic iron industry in spreading the use of iron to sub-Saharan Africa has frequently been stressed. See P. HUARD, BIFAN ser. B 22, 1/2 (1960), 150—162, 171—174; IDEM, JAH 7.3 (1966), 389—393, 395—397, 402—403. Prominent in such literature are theories about iron production as a royal monopoly in Meroe (possibly in imitation of the Ptolemies ?, see above n. 1198), a widely held view which cannot be proven, and the diffusion of iron to Central Africa as a result of migrations from the Meroitic area. But some scholars have quite correctly begun to reject such hypotheses since West African excavations have tended to suggest that iron production was already known in this area by c. 500 B.C. Instead it is possible that iron smelting was an autochthonous development in several different parts of Africa. See L.-M. DIOP, Métallurgie et Age du Fer en Afrique, BIFAN ser. B 30.1 (1968), 20—37; B. G. TRIGGER, The Myth of Meroe and the African Iron Age, Afr.Hist.Stud. 2.1 (1969), 23—50. For early African furnaces see L.-M. DIOP, BIFAN ser. B 30.1 (1968), 17—19. The largest known complex of ancient iron mines in Africa is found at Tell Nugar southeast of Lake Chad (but these may only go back to the medieval period). See description in General DÉRENDIGER, Les curieuses mines de fer de Télé-Nugar (Tchad), JSA 6 (1936), 197—204, figs. 24, 25. For the discovery of a new group of Meroitic iron furnaces see R. F. TYLECOTE, Iron Working at Meroe, Sudan, BHM 4.2 (1970), 67—72 with dates in the third century of our era. Recent work in West Africa has shown that apart from Mauretania, where the early use of copper is well attested (see N. LAMBERT, Les industries sur cuivre dans l'ouest Saharien, WAJA 1 [1971], 16—18 — particularly around the mining site of Akjoujt), most of West Africa went directly from the use of stone to iron. The Nok Culture characterized by the appearance of iron slag has been dated by C-14 to the period between 925 B.C. ± 70 and A.D. 200 ± 50. Most Nok Culture sites have yielded such early dates: e.g. Samun Dukiya, C-14 of 210 B.C. ± 95, see A. FAGG, A Preliminary Report on an Occupation Site in the Nok Valley, Nigeria: Samun Dukiya, AF/70/1, WAJA 2 (1972), 75—79; the numerous iron furnaces at Taruga yielded dates of 440 B.C. ± 140 and 300 B.C. ± 100, see T. SHAW, Radiocarbon Dating in Nigeria, JHSN 4 (1968), 461; most significant is the late date for the first appearance of iron at Daima (before the middle of the first millennium A.D.), a site on precisely the route which would have been followed had iron been introduced to this region from Meroe, see G. E. CONNAH, Radiocarbon Dates for Benin City and Further Dates for Daima, N. E. NIGERIA, JHSN 4 (1968), 313—320. See in general T. SHAW, Archaeology in Nigeria, Antiquity 43 (1969), 191—193. The dates known so far seem to suggest that iron technology developed in West Africa and East Africa independently of Meroe (cf. above n. 1141a). The 'Periplus', however, indicates that imports of iron and copper still found a ready market centuries after iron began to be smelted by the Africans themselves. Little is as yet known about the date of the beginning of the Iron Age in Ethiopia. At Yeha iron weapons occur in tombs dated to the fourth or third century B.C., see F. ANFRAY, Une campagne de fouilles à Yeha, Annales d'Éthiopie 5 (1963), 177, 179, 181—182, 184. Further south at Lalibela and Natchabiet iron appears only after c. A.D. 1000 (J. DOMBROWSKI, Preliminary Report on Excavations in Lalibela and Natchabiet Caves, Begemeder, Annales d'Éthiopie 8 [1970], 24, 28) thus making Axum on the present evidence an unlikely source for the spread of iron to East Africa.

1536 Few Roman coin finds have been made in East and Central Africa. For coins found in Meroitic territory see above n. 900. Roman Æ (Nero to Constans) were found at a site near Port Dunford in association with coins from the seventeenth and eighteenth centuries, see H. MATTINGLY, Coins from a Site-find in British East Africa, NC 5 ser. 12 (1932), 175. An *antoninianus* of Victorinus was dug up in a suburb of Nairobi, M. P. CHARLESWORTH, A Roman Imperial Coin from Nairobi, NC 6 ser. 9 (1949), 107—108. The report of a find of a coin of Antoninus Pius in a mine at Umtali in Rhodesia, in: R. N. HALL and W. G. NEAL, The Ancient Ruins of Rhodesia^{2} (London 1904), 143 is correctly rejected by CHARLESWORTH, op. cit., 108. E. W. BOVILL, Antiquity 30 (1956), 203 quotes a letter from E. J. ARNETT reporting that a coin of Constantine was dug up at Buea in Cameroun in 1931. A coin of Diocletian and an Alexandrian tetradrachm have been found in Natal (the former at Mount Edgecombe, the latter on a beach) but both are probably modern arrivals, so J. F. SCHOFIELD, Finds of Ancient Coins in Southern Africa, SAMAB 2.15 (1942), 384. Most Roman coins found in sub-Saharan Africa were probably brought there either in the late medieval or modern period. For this phenomenon see G. MILDENBERGER, Verschleppte Bodenfunde. Ein Beitrag zur Fundkritik, BJ 169 (1969), 1—28 (mentions numerous instances of Roman coins; see also the modern collection of Roman coins found in China, above n. 332). For the continued circulation of Roman coins in the Middle Ages see R. A. MERSON, A Curious Aspect of Monetary History — The Use of Roman Coins in Later Ages, SCMB (April 1975), 115—116 and G. DEPEYROT, Problèmes de réutilisation des monnaies romaines à Cahors (Lot), BSFN 31.1 (1976), 11—12.

On Greek and Roman coins in the Dar-es-Salaam museum see G. MATHEW, Recent Discoveries in East African Archaeology, Antiquity 27 (1953), 217—218 (gives no details). One find is of greater significance. At the village of Kiomoni in Tanzania a pot was found in 1896 containing 6 coins: 2 late Roman (Carus, Constans), one Byzantine (Heraclius), 2 of the Umayyed Caliphate, and one Fatimid, see N. CHITTIK, Six Early Coins from Near Tanga, Azania 1 (1966), 156—157, who correctly notes that there is no evidence that these coins were imported before the Islamic period. A small Æ of Claudius II struck at Alexandria was unearthed at Bindura in Rhodesia, but this was probably a modern arrival, see G. Caton Thompson, The Zimbabwe Culture (1931), 199n. A *sestertius* of Severus Alexander was found in excavations for a school in Uganda, T. V. Buttrey, Another Roman Coin from Africa, NC 7 ser. 4 (1964), 133—134. For a possible find of 5 Parthian and Sasanian coins in the Pemba and Zanzibar area see G. S. P. Freeman-Grenville, Coinage in East Africa before Portugese Times, NC 6 ser. 17 (1957), 163. In general see the negative conclusions about most of these finds in: G. S. P. Freeman-Grenville, JAH 1.1 (1960), 32—34.

Non-numismatic imports are rare. For the late Roman material from Adulis see above n. 1208. A chance find at the village of Mahabere Dyogoue west of Haoulti has produced a small bronze statuette of a bull which may be of Mediterranean manufacture, see H. de Contenson, Annales d'Éthiopie 3 (1959), 103; at Matara 14 *aurei* of the second and third centuries (all with either holes or loops for suspension) were found in a hoard together with gold jewellery and 2 gold crosses of the Byzantine period, see F. Anfray and G. Annequin, Matara. Deuxième, troisième et quatrième campagnes de fouilles, Annales d'Éthiopie 6 (1965), 68—70, fig. 12 and F. Anfray, Matara, Annales d'Éthiopie 7 (1967), 47—48 who publishes a bronze lamp which exhibits strong Hellenistic traits; for imported amphorae at Matara, see F. Anfray, RSE 22 (1966), 16. At Addi-Kilte in Axum itself a large number of fragments of Mediterranean amphorae have been found, F. Anfray, Aspects de l'archéologie éthiopienne, JAH 9.3 (1968), 361 (seventh century). Large quantities of Roman glass and amphorae fragments have been found in tombs at Axum, N. Chittick, Excavations at Axum, 1973—74: a Preliminary Report, Azania 9 (1974), 174, 194, 196, 198 (all the material seems to be third to sixth century). At Dangour numerous fragments of amphorae and imitation *terra sigillata* have been found as well as a glass vessel, see F. Anfray, Paideuma 18 (1972), 64—65 (dated as late as seventh century).

[1537] On the Hellenistic survivals in Northwestern India see above pp. 632—633.

[1538] For the imports at Muza see Periplus c. 24 (= Frisk, p. 8.1—6): Φορτία δὲ εἰς αὐτὴν προχωρεῖ πορφύρα διάφορος καὶ χυδαία καὶ ἱματισμὸς 'Αραβικὸς χειριδωτός, ὅ τε ἁπλοῦς καὶ ὁ κοινὸς καὶ σκοτουλᾶτος καὶ διάχρυσος, καὶ κρόκος καὶ κύπερος καὶ ὀθόνιον καὶ ἀβόλλαι καὶ λώδικες οὐ πολλαί, ἁπλοῖ τε καὶ ἐντόπιοι, ζῶναι σκιωταὶ καὶ μύρον μέτριον καὶ χρῆμα ἱκανόν, οἶνός τε καὶ σῖτος οὐ πολύς; for imports at Qana see c. 28 (= Frisk, p. 9.13—16): Εἰσάγεται δὲ εἰς αὐτὴν ἀπ' Αἰγύπτου μὲν ὁμοίως πυρὸς ὀλίγος καὶ οἶνος ὥσπερ καὶ εἰς Μούζα, ἱματισμὸς 'Αραβικός, [καὶ] ὁμοίως καὶ κοινὸς καὶ ἁπλοῦς καὶ ὁ νόθος περισσότερος, καὶ χαλκὸς καὶ κασσίτερος καὶ κοράλλιον καὶ στύραξ καὶ τὰ λοιπὰ ὅσα εἰς Μούζα. For the poverty of Southern Arabia in such basic metals as copper and iron see A. Grohmann, Südarabien als Wirtschaftsgebiet, 166—169. For finds of Roman pottery at Khor Rori see H. Comfort, Some Imperial Pottery at Khor Rori (Dhofar), BASOR 160 (1960), 15—20: 2 sherds are Samian and one is Roman Pergamene ware. For Roman pottery at Timna' see above n. 1224. For a study of the architectural use of the Hellenistic grape-vine pattern in Southern Arabia see J. Pirenne, Le rinceau dans l'évolution de l'art sud-arabe, Syria 34 (1957), 99—127. I do not find her chronological attributions of a number of the monuments convincing. The excavations at Timna' turned up two large bronze lions with infant riders cast from moulds, a small bronze winged deity and a seated female figure (Lady Bar'at) in bronze. Although all four are distinctively Hellenistic, it is not certain that any of the works are imported, see B. Segall, Sculpture from Arabia Felix. The Hellenistic Period, AJA 59 (1955), 209—214, pls. 56—58, 61, and C. Picard, Les lions chevauchés de Timna et la sculpture alexandrine de l'Arabia Felix, RA 6 ser. 46 (1955), 2.76—78 (suggests a copy of an Alexandrian work of c. 150 B.C.); cf. J. Pirenne, Annales d'Éthiopie 2 (1957), 45—46.

Horses are of particular importance. The development of the horse-mounted nomad in Central Arabia is usually assigned to the period of the second or third centuries and is marked by an increase in warfare and the beginning of the destruction of the sedentary agricultural systems of the great oases; see W. DOSTAL, Zur Frage der Entwicklung des Beduinentums, AfV 13 (1958), 1—4. Two passages in the 'Periplus' assume considerable importance here. Horses were imported at Muza and Qana for the kings of Himyar and the Hadhramaut: c. 24 (= FRISK, p. 8.7): Τῷ τε βασιλεῖ καὶ τῷ τυράννῳ δίδονται ἵπποι and again c. 28 (= FRISK, p. 9.17). Horses and cavalry are absent from Minaean and Qatabanite inscriptions and G. RYCKMANS has argued that none of the inscriptions which mention horses are earlier than the second and third centuries. See texts collected in: G. RYCKMANS, La mention des chevaux dans les inscriptions arabes préislamiques, AOF 14 (1941), 54—56; J. RYCKMANS, OA 3 (1964), 71—73, who argues that the 'Periplus' can thus not be earlier than the second century; so also H. v. WISSMANN, Le Muséon 27 (1964), 452; cf. W. DOSTAL, AfV 13 (1958), 1—12, who argues that the advent of the '*Reiterkriegertum*' must be explained by the achievement of new techniques of saddle construction. The immediate place of origin for such horses must have been Egypt, but in the Roman period riding animals are rare and even the use of horses as draught animals is not well attested, see P. J. SIJPESTEIJN, ZPE 6.1 (1970), 81. SHERK's reconstruction of a metrical epitaph in the Alexandria Museum appears to suggest that agents of cavalry units stationed in Egypt travelled outside the province to procure horses, see R. K. SHERK, An Epitaph in the Museum of Alexandria, GRBS 5.4 (1964), 303. The text is re-edited by E. BERNAND in Inscr. Métriques no. 24 who suggests that the deceased may have been a *strator*; cf. W. PEEK, Griechische Vers-Inschriften aus Ägypten, ZPE 10.3 (1973), 231—233 who restores lines 2—4: [ἵπποις δ' Ἑλλαδικῇσιν ἑὴν ἄσ[κησιν ἔφηνε] / ναῖεν δ' ἱπποβότων ἄστεα [Καππαδ]όκων.

[1539] The trade balance between Roman Egypt and Arabia reflected in the 'Periplus' contradicts the erroneous information of Pliny, NH VI.162: ***in universum gentes ditissimae, ut apud quas maximae opes Romanorum Parthorumque subsidant, vendentibus quae e mari aut silvis capiunt, nihil invicem redimentibus***. Southern Arabia was apparently rich in gold and silver. The inscriptions contain numerous references to votive offerings of silver or gold (more numerous), see material collected in A. GROHMANN, Südarabien, 169, 172; cf. n. 902. See also Agatharchides frag. 96 (Photius) (= GGM I, p. 185): Τὸν μέντοι χρυσὸν ὀρύσσοντες ἐν τοῖς πλακώδεσι τῆς χώρας ὑπονόμοις εὑρίσκουσι πολύν, οὐ τὸν συντηκόμενον μετ' ἐπιστήμης καὶ τέχνης ἐκ τοῦ ψήγματος, ἀλλὰ τὸν αὐτόματον, καλούμενον δὲ διὰ τὸ συμβαῖνον παρ' Ἕλλησιν ἄπυρον· οὗ τὸ μὲν ἐλάχιστον ἔχει μέγεθος πυρῆνος, τὸ δὲ μέσον μεσπίλου, τὸ δὲ μέγιστον ὥστε βασιλικοῖς παραβάλλεσθαι καρύοις. Ὃν τρήσαντες ἐναλλὰξ διαφανέσι λίθοις περί τε τοὺς καρποὺς φοροῦσι τῶν χειρῶν καὶ περὶ τοὺς αὐχένας, πρός τε τοὺς ἀστυγείτονας μετάγοντες πωλοῦσιν εὐτελῶς· τὸν μὲν γὰρ χαλκὸν πρὸς τὸν χρυσὸν τρίσταθμον ἀλλάττονται, τὸν δὲ σίδηρον πρὸς διπλοῦν χρυσίον. Cf. D. WOELK, Agatharchides von Knidos, 231—232.

[1540] Periplus c. 56 (= FRISK, p. 18.16—18): Πλεῖ δὲ εἰς τὰ ἐμπόρια (Μούζιρις καὶ Νελκύνδα) ταῦτα μεγάλα πλοῖα διὰ τὸν ὄγκον καὶ τὸ πλῆθος τοῦ πιπέρεως καὶ τοῦ μαλαβάθρου. Προχωρεῖ δὲ εἰς αὐτὴν προηγουμένως [δὲ] χρήματα πλεῖστα ..... Cf. the references to the import of gold by the *Yavānas* (see above n. 843 for this ethnic term) to Muziris and the export of pepper from the same port in Tamil literature, Tāyan-Kaṇṇanār, Agam 149.7—11; Paraṇar, Pu Ram 343.1—11; see commentary on the texts in P. MEILE, Les Yavanas dans l'Inde Tamoule, JA 232 (1940), 89—96 (accepting a date in the second or third centuries for these poems, 88—89).

For underdevelopment as an important causative factor in unfavourable balance of trade between Europe and certain areas of Africa and Asia in the last century, see P. BAIROCH, Geographical Structure and Trade Balance of European Foreign Trade from 1800 to 1970, JEEH 3.3 (1974), 567—570, 573—574.

[1541] The importance of the beryl mines is frequently exaggerated, e. g. L. PETECH, E & W n. s. 2 (1951), 73.

[1542] See above and also the statement of Cosmas Indicopleustes about 'emeralds' (beryl), XI.21 (Wolska-Conus): Εἰσφέρουσι γὰρ οἱ Αἰθίοπες συναλλαγὰς ποιοῦντες μετὰ τῶν Βλεμμύων ἐν τῇ Αἰθιοπίᾳ τὸν αὐτὸν λίθον (σμάραγδον) ἕως εἰς τὴν Ἰνδίαν.

[1543] For the earlier French excavations at the site see J. M. CASAL, Fouilles de Virampatnam-Arikamedu (Paris 1949); G. JOUVEAU-DUBREUIL, BEFEO 40 (1941), 450; R. E. M. WHEELER, Virampatnam, JGIS 11 (1945), 91—95 on Arretine pottery from the French excavations. For WHEELER's own excavations of the area see R. E. M. WHEELER et al., AI 2 (1946), 34—40 (Arretine ware); 41—45 (amphorae); 101 (Roman gem and lamp); 102 (Roman glass bowls). Also IDEM, in: Aspects of Archaeology, 354—359, fig. 70; cf. R. F. FAUCHEAUX, Une vieille cité indienne près de Pondichery, Virampatnam (Pondichery 1945); P. Z. PATABIRAMIN, Les fouilles d'Arikamedu (Podouke) (Paris 1946) and J. M. and G. CASAL, Site urbain et sites funéraires des environs de Pondichéry Virampatnam–Mouttrapaléon–Souttoukény (Paris 1956), 5—13.

[1544] From the Brahmapuri mound by Kolhapur comes a bronze statuette of Poseidon and a bronze water jug. Published by R. E. M. WHEELER, in: Aspects of Archaeology, 350—351, pl. XIXb, c. Also Roman amphorae: H. D. SANKALIA, Imported Mediterranean Amphorae from Kolhapur, JRAS (1957), 207—208, 2 sherds. Again in: H. D. SANKALIA and M. G. DIKSHIT, Excavations at Brahmapuri (Kolhapur) 1945—46 (Poona, 1952), 141; a clay *bulla* imitating a Roman coin was also found at the site, ibid., 97 no. 1386, pl. XXVI.B6 (photo not very clear).

[1545] At Nevasa in Period V of the site a number of Megarian or Megarian-like sherds were excavated (identified by WHEELER) as well as 63 amphorae fragments. Two of the latter sherds had a resinous coating which chemical analysis revealed was some sort of asphaltic substance. See H. D. SANKALIA, S. B. DEO, Z. D'ANSARI and S. EHRHARDT, From History to Pre-History at Nevasa, 1954—56 (Poona 1960), 69—70, 275—281, 527. The site also yielded *bullae* of clay, lead and gold imitating Roman coins. The dates proposed on archaeological grounds for periods IV and V (second century B.C. to 50 B.C.; 50 B.C. to A.D. 200) appear to be considerably too early in the light of the subsequently published radiocarbon readings: A.D. 195 ± 105 (Period V); A.D. 90 ± 100 and A. D. 275 ± 96 (Period IV); see S. KUSUMGAR, D. LAL, and R. P. SARNA, Radiocarbon 5 (1963), 278; cf. T. N. ROY, in: A. K. NARAIN (ed.), Seminar Papers, 99—100.

[1546] Period VI at Maheshwar yielded a considerable number of a fine Red Polished Ware similar to Samian Ware, see H. D. SANKALIA, B. SUBBARAO and S. B. DEO, The Excavations at Maheshwar and Navdatoli, 1952—1953 (Poona 1958), 22, 159—160, and H. D. SANKALIA, Coins and Glass Seal from Maheshwar Excavations, 1953, JNSI 15.2 (1953), 197.

[1547] For the imported material at Taxila see above n. 494.

[1548] For a general survey of Roman finds in Western India see C. MARGABANDHU, Trade Contacts between Western India and the Graeco-Roman World in the Early Centuries of the Christian Era, JESHO 8 (1965), 316—322. Excavations at several sites in Bengal have yielded Graeco-Roman material, but the publication is exceedingly vague. Tamluk: pottery fragments "of Graeco-Roman character" (said to be like those at Arikamedu); Tilda: a terracotta tablet bearing the inscription Εὖρος; Chandraketugarh: fragments of "Rouletted Ware" and a diademed female head similar to one found at Taxila; Havinurayanpur: Rouletted Ware of Roman origin; Bahiri: similar "Roman pottery"; Atghara: pottery similar to the Arretine Ware at Arikamedu; Boral: "Roman" pottery. There are no photographs and the description of the pottery fragments is sufficiently vague to permit a different identification (e. g. see below n. 1549 on Indian imitation of Roman pottery). P. C. D. GUPTA, Graeco-Roman Finds from Bengal, IAC (1960), 386—392. From Period III at Nasik sherds of imported Samian Ware have been found (one identified by WHEELER), see H. D. SANKALIA and S. B. DEO, Report on the Excavations at Nasik and Jorwe, 1950—51 (Poona 1955), 7, 29, 69; at Vallabhi in Gujarat surface explorations yielded several sherds of Roman amphorae, IAR 1963—64, p. 9; at Nagara, in the same state, Roman amphorae were found in Period III in the excavations of the site, IAR 1963—64, p. 10; at the coastal site of Dwarka in Gujarat five sherds of a Roman amphora, all with black incrustation on the inner surface, were excavated from Period II, Z. D. ANSARI and M. S. MATE, Excavations at Dwarka (Poona 1966), 15, 29, 31, 58, 72—73; at Ajabpura in Gujarat surface finds included sherds of amphorae. IAR 1969—70, p. 9; at Dharanikonta in Andhra Pradesh fragments of an amphora were found in Period VII (second to third centuries) by the excavators, IAR 1964—65, p. 3; at Uraiyur in Tamil Nadu, Arretine Ware has been found in Period I of the site, IAR 1964—65, p. 25; at Kanchipuram almost 50 conical amphorae were excavated from Sub-Period IA together with sherds of Arretine Ware and Sātavāhana coins, IAR 1962—63, p. 12, IAR 1970—71, p. 32; at Arasankuppam in the same state a single sherd of Arretine Ware was found, IAR 1965—66, p. 25; at Vasavasamudram in Tamil Nadu a few amphorae were turned up by a plough, IAR 1969—70, p. 34; Devinimori: 3 amphorae with a black resinous coating were excavated, R. N. MEHTA, Excavations at Devnimori, M.S. University Archaeology Series no. 8 (Baroda 1966), 77; Piklihal: a single sherd of imported Samian Ware was found, F. R. ALLCHIN, Piklihal Excavations (Hyderabad 1960), 75; Kaveripattinam (Tamil Nadu): Roman pottery was excavated from this ancient Tamil port, S. R. RAO, Kaveripattinam Excavations, TASSI 7 (1962—65), 163; Rajbadidanga, West Bengal: a seal with a Greek inscription came to light in excavations of the site, S. R. DAS, Rājbāḍīdānga: 1962 (Chiruṭi: Jadupur), An Interim Report on Eacavations at Rājbāḍidāngā and Terracotta Seals and Sealings, Asiatic Society Monograph 14 (Calcutta 1968), 60—61; Prabhas Patan (Gujarat): a fragment of an imported amphora from period V, IAR 1971—72, p. 13; Badoni (Madhya Pradesh): a few sherds of Roman pottery were collected on the surface, IAR 1971—72, p. 27.

[1549] See first WHEELER'S report on this pottery from Arikamedu, R. E. M. WHEELER, AI 2 (1946), 40—41; IDEM, AI 4 (1947/48), 200. Similar pottery is found at a considerable number of other Indian sites: Sengamedu: N. R. BANERJEE, March of India 8.2 no. 8 (1956), 45 Rouletted ware and an imitation amphora; Brahmagiri: R. E. M. WHEELER, Brahmagiri and Chandravalli 1947: Megalithic and Other Cultures in Chitaldrug District, Mysore State, AI 4 (1948), 236—237; Amaravati: R. E. M. WHEELER, AI 2 (1946), 49; Sisupalgarh: B. LAL, AI 5 (1949), 63; Chandravalli: R. E. M. WHEELER, AI 4 (1947/48), 200; Nasik: considerable numbers of Red Polished ware described as imitation Samian ware were found, H. D. SANKALIA and S. B. DEO, Report on the Excavations at Nasik and Jorwe, 1950—51, 7,26, 29, 69. Many sherds of Red Polished Ware (imitation Samian), distinguished from local pottery by their uniform firing and treatment of the surface, were found, H. D. SANKALIA et al., The Excavations at Maheshwar and Navdatoli, 1952—53, 22, 159—161; Kolhapur: imitation Roman pottery, H. D. SANKALIA and M. G. DIKSHIT, Excavations at Brahmapuri (Kolhapur) 1945—46, 141—142; Nevasa: Red Polished Ware and Rouletted Ware, H. D. SANKALIA et al., From History to Pre-History at Nevasa, 1954—56, 69—70, 275—281; Chejerla: Rouletted Ware was found in the excavations, IAR 1961—62, p. 1; Paritala: Rouletted Ware was found, ibid.; Kesarapalli: the excavation of a mound revealed Rouletted Ware in use in Period III, also a single piece found on the surface had been repaired with iron pins, ibid., pp. 1—2; Mukhalingam: trial pits in a mound yielded numerous sherds of Rouletted Ware, ibid., p. 3; Eran: Period III shows sherds of Red Polished Ware, IAR 1961—62, p. 25, IAR 1962—63, p. 12, IAR 1963—64, pp. 15—16; Kaveripattinam and the surrounding area: sites around the great Tamil port have produced Rouletted Ware, IAR 1961—62, pp. 26—27, pl. XLVI.A, IAR 1963—64, p. 20, IAR 1964—65, p. 25; Dharanikonta: an ancient port site at which Rouletted Ware has been excavated from Phase III, IAR 1962—63, p. 2, IAR 1963—64, pp. 2—3; Vallabhipura: surface finds of Red Polished Ware, ibid., p. 9; Kanchipuram: the upper portion of the late Megalithic period yielded Rouletted Ware and an imitation amphora, IAR 1962—63, p. 12, IAR 1969—70, p. 35, IAR 1971—72, p. 43; Nagari: Period III yielded Red Polished Ware, IAR 1962—63, p. 19; Chandraketugarh: period III is characterized by the appearance of Rouletted Ware — this is one of the few sites in West Bengal which has yielded this type of pottery, IAR 1961—62, pp. 62—63, pl. CV. 5, IAR 1962—63, p. 46, IAR 1963—64, p. 64, IAR 1965—66, pp. 59—60, IAR 1970—71, p. 51; also in West Bengal surface finds of Rouletted Ware have been reported from Saptagram, IAR 1961—62, p. 59; Pithapuram: sherds of Rouletted Ware have been found on the surface of an ancient mound, IAR 1961—62, p. 96; Jambuladinne, Mittapalli and Nilugondla: at all three sites in District Kurnool Rouletted Ware has been found during surface explorations, IAR 1963—64, p. 4; at Deel-Chapper, Saundha, Rajputan and Vandali-Dogran, all in the Punjab, Red Polished Ware has been found on the surface, IAR 1963—64, pp. 27—28; also at Zahura in the same province, IAR 1969—70, p. 31; Red Polished Ware has been found in excavations in Punjab at Sanghol, IAR 1969—70, p. 32; Shamlaji: Red Polished Ware was found in Period II A of the site together with silver Kṣatrapa coins, IAR 1961—62, pp. 13—14; surface finds of Red Polished Ware in Gujarat have been reported at Sherdi, Dharavana-no-Ghod and Hanuman-Timba, IAR 1963—64, p. 86, IAR 1964—65, p. 11; Singupuram and the ancient port of Kalingapatam: Rouletted Ware has been found on the surface, IAR 1961—62, p. 96; Bhattiprolu: Rouletted Ware excavated, IAR 1969—70, p. 1; Rajghat: stray finds in excavations include a sherd of Rouletted Ware, IAR 1963—64, p. 59, pl. XL.A; Lakhmapuri: a single fragment of Red Polished Ware was found on the surface, IAR 1965—66, p. 48; Uraiyur: Rouletted Ware was excavated from Period I of the site, IAR 1964—65, p. 25 and IAR 1965—66, p. 26; Kambaduru: surface finds of Rouletted Ware, IAR 1962—63, p. 65; Tripuri: Red Polished Ware was excavated from Period III which also yielded Sātavāhana and Kṣatrapa coins, IAR 1965—66, p. 22; Rouletted Ware was found on the surface at Kottaimedu and Nattamedu in Tamil Nadu, IAR 1965—66, p. 25; Daulatpur: Red Polished Ware has been excavated from the second phase of Period III, IAR 1968—69, p. 9; Pauni: the top-most stratum of the site yielded a few sherds of Red Polished Ware, IAR 1968—69, p. 16; Korkai: this ancient port of the Pandyas yielded some Rouletted Ware, IAR 1968—69, p. 32; Kanheri: excavations in a cave here turned up sherds of Red Polished Ware and a lead coin of Nahapāna in phase II, IAR 1969—70, p. 22; Ramtola: sherds of Red Polished Ware were excavated, IAR 1969—70, p. 20; Bahal: the early Sātavāhana period is characterized by Red Polished Ware, Y. D. Sharma, Exploration of Historical Sites, AI 9 (1953), 162; Amreli and Mota Machiala: ibid., 162; Ter: various levels of the site yielded sherds of Rouletted Ware and Red Polished Ware, B. N. Chapekar, Report on the Excavations at Ter 1958 (Poona 1969), 17—18, 62—66 (for the identification of this site with the Tagara mentioned in Periplus c. 51 = Frisk, p. 17.11, 13 see M. N. Despande, Sātavāhana Coins from Ter, INC 3.2 (1964), 161, cf. a coin possibly bearing the ancient name Tagar published by C. Gupta, A Coin of the City State of Tagar, JNSI 33.2 (1971), 37—40); Somnath: numerous sherds of Red Polished Ware were excavated, J. M. Nanavati, R. N. Mehta and S. N. Chowdhary, Samnath — 1956 (Baroda 1971), 61—67; Ahar: two sherds of Red Polished Ware, H. D. Sankalia, S. B. Deo and Z. D. Ansari, Excavations at Ahar (Tambavati) (Poona 1969), 153; Salihundam: a large number of sherds of Rouletted Ware, some with Brāhmī graffiti were excavated, R. Subrahmanyam, Salihundam, A Buddhist Site in Andhra Pradesh (Hyderabad 1964), 22, 41—47; Sisupalgarh: sherds of Rouletted Ware were found during excavations, B. B. Lal, Śiśupālgarh 1948: An Early Historical Fort in Eastern India, AI 5 (1949), 86—87, IAR 1970—71, p. 30; Chintamadi Dibba and Neredubandaguddu (Andhra Pradesh): sherds of Rouletted Ware were found on the surface, IAR 1971—72, p. 4; Prabhas Patan: sherds of Red Polished Ware were excavated from period V of the site, IAR 1971—72, p. 13; Raja Karna Ka Qila (Haryana): Red Polished Ware excavated from Period II, IAR 1970—1971, p. 16 and IAR 1971—72, p. 24; Banavasi (Mysore): sherds of Rouletted Ware were found in excavations, IAR 1970—71, p. 29. In all of the above cases the distinctive Red Polished Ware is characterized by its fabric, shape and quality in comparison with the local ware. The Rouletted Ware bears concentric rings of rouletted pattern round the interior of the base and is clearly imitated from Arretine Ware of the first half of the first century. In general on Red Polished Ware see B. Subbarao, Baroda through the Ages (Baroda 1953), 56—64. Although Red Polished Ware occurs at Indian sites in strata dated from the first to third centuries (all too frequently on the basis of this pottery itself) and is usually regarded as intrusive, the very number of sites where it is found should perhaps cause some hesitation in accepting Wheeler's judgement. Cf. also the comments of R. Subrahmanyam, Salihundam, 42—43 on black and grey Rouletted Ware from that site.

[1550] The earliest specimens of Indian glass come from the Chalcolithic levels of Maski (c. 1000 B.C. ?), B. K. THAPAR, Maski 1954: A Chalcolithic Site of Southern Deccan, AI 13 (1957), 106—107. Early glass finds are confined to objects such as seals, bangles, and beads. For a seal impression of a marching elephant and swastika on a glass tablet from Period II at Maheshwar, H. D. SANKALIA, Coins and Glass Seal from Maheshwar Excavations, 1953, JNSI 15.2 (1953), 201—202. See also B. B. LAL, Examination of Some Ancient Indian Glass Specimens, AI 8 (1952), 17—22; V. S. WAKANKAR, A Glass Seal from Ujjain, INC 3.2 (1964), 155—157, pl. I attributed to Mauryan period. The quality and extent of Indian glass production is greatly exaggerated in M. G. DIKSHIT, Studies in Ancient Indian Glass, E & W n. s. 15 1/2 (1964/65), 62—68.

[1551] For the discovery of glass rods for making beads at Arikamedu see B. B. LAL, Examination of Rods of Glass-like Material from Arikamedu, AI 14 (1958), 139—143. For the extensive glass bead finds from this site see R. E. M. WHEELER et al., AI 2 (1946), 95—101. Glass beads were produced at Kolhapur in the Sātavāhana period, M. G. DIKSHIT, Beads from Ahichhatra, AI 8 (1952), 33—63; H. D. SANKALIA and M. G. DIKSHIT, Excavations at Brahmapuri (Kolhapur) 1945—46 (Poona 1952), 98—101; the glass slag and unfinished beads come from the same period as the clay *bullae* imitating Roman coins and imported Roman pottery. See also R. E. M. WHEELER, AI 4 (1947/48), 262—263. For evidence of glass production at Maheshwar see H. D. SANKALIA et al., The Excavations at Maheshwar and Navdatoli, 1952—53, 216—221; 95% of the glass bangles come from Period VI, i. e. post Indo-Roman. At Nevasa glass slag and unfinished glass beads and bangles have been found; again the local industry reached its height in Period V, the time of greatest contact with the Roman Empire, see H. D. SANKALIA et al., From History to Pre-History at Nevasa, 1954—56, 367—369, 441, 453; at Kesarapalli glass beads appear in Period IV and Rouletted Ware in Period III, IAR 1961—62, p. 2; at Masaon glass bangles appear in Period IV together with Gupta finds, IAR 1964—65, p. 43; at Kausan the Sātavāhana level yielded glass beads, IAR 1965—66, p. 28; at Tirukkambuliyur glass and paste beads appear in Period II characterized by the waning of Black and Red Ware (c. first century of our era), IAR 1962—63, p. 14; at Virpur glass bangles appear in Period III after the disappearance of Northern Black Polished Ware, IAR 1961—62, p. 7; at Ahar the glass beads and bangles seem (stratigraphy disturbed) all to come from Period II, the same phase as Red Polished Ware, H. D. SANKALIA, et al., Excavations at Ahar (Tambavati), 165, 204. For the possible stimulus given by Roman imports to Central Asian glass production see above n. 400.

[1552] See for this M. ROSTOVTZEFF, SEHRW, 1.93—94, 172—175, 177—178. The phenomenon is also attested at a few other non-Indian eastern sites. Imitation Roman vases and oinochoai were produced at Kara-Tepe, so R. IA. STAVISKII, in: India v. Drevnosti, 180. See also M. NEGRO PONZI, Sasanian Glassware from Tell Mahaz (Northern Mesopotamia), Mesopotamia 3/4 (1968/69), 378—384 for encouragement of local glass production by Roman imports. The phenomenon can also be paralleled in a later period of Indian Ocean trade (see briefly below pp. 1069—1072). At Samarra Islamic imitations of Chinese stoneware were produced, cf. F. SARRE, Die Ausgrabungen von Samarra, II: Die Keramik von Samarra (Berlin 1925), 68. For Islamic tin-glazed pottery at Siraf which closely copies imported Chinese wares see D. WHITEHOUSE, Iran 6 (1968), 15.

[1553] B. LAHIRI, Early Indigenous Coins of South India, in: D. C. SIRCAR (ed.), Coins, 78—100. For example, at Sisupalgarh punch-marked coins, lead coins, Kuṣāṇa and Puri-Kuṣāṇa coins as well as imitations of Roman coins were apparently excavated from the same strata; see B. B. LAL, AI 5 (1959), 95—101 (the description of the stratigraphy is not clear).

[1554] Most scholars place the minting of silver punch-marked coins into the pre-Mauryan and Mauryan periods; see J. ALLAN, BMC, Anc. India, pp. xli—xlvii, lxx—lxxiv; D. PRASAD, Classification and Significance of the Symbols on the Silver Punch-Marked Coins of Ancient India, JASB n. s. 45 (1935), 5—60; E. H. C. WALSH, A Comparative Study of the Patraha

(Purnea) Hoard of Silver Punch-Marked Coins, JNSI 3 (1942), 81—132. For a general summary of the results obtained to date see P. L. Gupta, The Chronology of Punch-Marked Coins, in: A. K. Narain (ed.), Chronology, 1—18. The evidence for the early chronology of these coins comes primarily from hoards containing dated Greek or Persian issues. Chronological conclusions based on the stratigraphy of excavated sites are very unreliable. Three hoards are relevant: the 1913 and 1924 Bhir Mound hoards (Taxila) and the Cabul hoard of 1933, see IGCH nos. 1831, 1832 and 1830. The literature for these hoards and the resulting chronological controversies is cited above n. 1529. For a further hoard of punch-marked coins from Taxila see P. L. Gupta, A New Hoard of Silver Punch-Marked Coins from Taxila, JNSI 13.1 (1951), 53—68. The most recent and comprehensive study of the problem is M. Mitchiner, The Origins of Indian Coinage (London 1973). Mitchiner attributes the inception of punch-marked coinage to the states of the pre-Mauryan period. The most northerly find of a hoard of silver punch-marked coins has been made at Ai Khanoum in northern Afghanistan, where French excavators found 677 such coins, see R. Audouin and P. Bernard, Trésor de monnaies indiennes et indogrecques d'Aï Khanoum (Afghanistan), RN 6 ser. 15 (1973), 238—249; also on this hoard see A. K. Narain, The Two Hindu Divinities on the Coins of Agathocles from Ai-Khanum, JNSI 35 (1973), 73—77.
It has been suggested that a recently published hoard of copper punch-marked coins comes from the second century B.C. and that it imitates Mauryan coins which were no longer being issued: T. R. Hardaker, A New Hoard of Indian Copper Punch-Marked Coins from Madhya Pradesh, NC 7 ser. 14 (1974), 31—41. For the fineness of the silver issues see figures collected in P. L. Gupta, Fabrication of Ancient Indian Punch-Marked Coins, INC 3.2 (1964), 121—123; H. C. Bhardwaj, Bearing of Chemical Composition and Metallography on the Chronology of the Punch-Marked Coins, in: A. K. Narain and L. Gopal (eds.), Chronology, 57—59. On the extreme rarity of copper and billon punch-marked coins see C. R. Choudhury, A Catalogue of Early Indian Coins in the Asutosh Museum, pt. 1 (Calcutta 1962), pp. xx—xxiii.

[1555] The Audumbaras issued both silver and copper coins from c. first century B. C. to c. second century of our era; see K. K. Dasgupta, The Audumbaras (Calcutta 1965), 7—21, pls. I—IV; cf. 27—30, where some of the silver and copper issues are separately attributed to the Vemakas. For the date of the Audumbara coinage see M. D. N. Sahi, The Bearing of Excavations on the Early History of the Audumbaras, in: A. M. Shastri, Coinage of the Satavahans and Coins from Excavations (Nagpur 1972), 125—127, who argues on the basis of the Rupar excavations for a date in the late second and early first centuries B.C. On the silver coins of the Vemakas see B. Lahiri, The Coinage of the Vemakis, JNSI 30 (1968), 61—67. The coinage of the Mālawas of Southeastern Rajputana was exclusively in copper; see the study of K. K. Dasgupta, The Mālavas (Calcutta 1966), 6—22, pls. I—III; these coins come almost exclusively from finds around Nagar (Karkotnagar) and Rairh. Individual finds of silver coins issued by Panchāla rulers have been made. One such coin of Vishṇumitra found at Ramnagar(?) was published by S. S. Roy, A Silver Coin of Pañchāla Vishṇumitra, JNSI 5.2 (1943), 153—154; cf. K. K. Dasgupta, The Audumbaras, 14—15. The copper coins of the Yaudheyas are relatively rare, see BMC, Ancient India, pp. 265—278. A hoard of 164 such coins attributed to the second century was found at Panjya (U. P.) in 1936, R. B. P. Dayal, A New Hoard of Yaudheya Coins from Dehra Dun District, JNSI 2 (1940), 109—112; see now on Yaudheya coins K. D. Bajpai, Yaudheya Coins — A Critical Study, JNSI 35 (1973), 90—94.

[1556] Periplus c. 47 (= Frisk, p. 16.8—11): ..... ἀφ' οὗ μέχρι νῦν ἐν Βαρυγάζοις παλαιαὶ προχωροῦσιν δραχμαί, γράμμασιν Ἑλληνικοῖς ἐγκεχαραγμέναι ἐπίσημα τῶν μετὰ Ἀλέξανδρον βεβασιλευκότων Ἀπολλοδότου καὶ Μενάνδρου. In the Skaikan Dheri mound coins of Menander and Apollodotus have been found in the Kuṣāṇa levels of the site; see A. H. Dani, Ancient Pakistan 2 (1965/66), 36—37. On the question of whether there are two kings or only one named Apollodotus see A. K. Narain, The Indo-Greeks, 64—69 (only one); cf. G. K. Jenkins, The Apollodotus Question: Another View, JNSI 21.1 (1959), 20—33 (two kings).

For those of Menander's coins intended to circulate south of the Hindu Kush see D. W. MacDowall, The Copper Denominations of Menander, AcIr 2 ser. 2 (1975), 45—47.

[1557] For Indo-Parthian coins see the literature cited above nn. 1368, 1371.

[1558] Sātavāhana coins are relatively rare in Gujurat, see BMC Andhra Dynasty, no. 78, a silver coin of Gautamīputra Yajna Satakarṇi from Amreli; cf. A. S. Garde, Some Rare Coins from Gujurat, JNSI 12.1 (1950), 26—30, who mentions Sātavāhana coins (lead and copper) from excavations at Amreli and surface finds at Kamrej and Karvan. Sātavāhana coins in lead and potin circulated in a large area of Central India, but the silver issues on the whole are concentrated in the Western Ghats, a few in Malwa and in Gujurat. See P. L. Gupta, The Coinage of the Sātavāhanas: Types and their Regional Distribution, in: A. M. Shastri (ed.), Coinage of the Sātavāhanas and Coins from Excavations, 41—61; Idem, Sātavāhana Coins from Excavations, in: ibid., 128—141 on the coins from Nevasa, Paithan, Kondapur, Brahmapuri and Chandravalli; also I. K. Sarina, Regional Distribution, Sequence, Chronology and Historical Significance of the Satavahana Coinage, in: ibid., 75—102. To which add a hoard of c. 700 lead Sātavāhana coins found at Wategaon, V. V. Mirashi, Wategaon Hoard of Sātavāhana Coins, JNSI 34 (1972), 205—212.

[1559] For Kṣatrapa chronology and coins see above n. 473. For the area of circulation of Western Kṣatrapa coins see V. V. Mirashi, Notes on Śaka-Sātavāhana Coins, JNSI 22 (1960), 113—115 on hoards from Sonpur, Bāsim and Kuṇḍinpur.

[1560] For the chronology and coins of the Kuṣāṇas see above pp. 639—640.

[1561] It is usually stated that virtually no regular silver coinage existed in Southern India in antiquity, so A. S. Altekar, JNSI 2 (1940), 9. In general on silver punch-marked coins in the South see V. Prakash, Coinage of South India, 14—18, and a good summary by T. V. Mahalingam, Chronology of the Punch-Marked Coins of South India, in: A. K. Narain and L. Gopal (eds.), Chronology, 19—23. For finds of punch-marked coins in the south see two hoards from Eyyal and Kottayam published in P. L. Gupta, The Early Coins of Kerala, 8—61. The Bodinayakkanur hoard of 1940 contained 1138 silver punch-marked coins, see R. B. P. Dayal, Presidential Address, 1944, JNSI 6 (1944), 65 and further below n. 1569.

[1562] The vast majority of all Sātavāhana coins were lead and potin, see above n. 1558. Silver issues of Andhra kings are exceedingly rare. Four such coins were known when a fifth coin was published by A. S. Altekar, A New Silver Coin of Gautamīputra, JNSI 8.2 (1946), 111—113; cf. P. J. Chinmulgund, JNSI 10 (1948), 22—23. Seven other such coins are noted and the attributions to three Sātavāhana rulers are discussed by A. M. Shastri, Silver Coinage of the Sātavāhanas, in: D. C. Sircar (ed.), Coins, 113—119. It is generally thought that such silver coinage began as an imitation of the Western Kṣatrapas, some of whose territories in the Northwest were conquered by the Sātavāhanas under Gautamīputra Śātakarṇi. The area of intended circulation is perhaps expanded by the publication of a portion of a mould for casting a silver portrait coin of Vāsiṣṭhīputra Puḷumāyī excavated at Nagarjunakonda, see I. K. Sarma, A Coin Mould Piece from Nagarjunakonda Excavations, JESHO 16.1 (1973), 89—103.

[1563] See, for example, S. C. Ray, JNSI 30 (1968), 110—117; A. N. Lahiri, Archaic Coins of Northern India, JNSI 35 (1973), 2.

[1564] For the coinage of Menander see above n. 709. There is also a unique gold piece, a half stater in weight, in the British Museum (BMC. Bactria and India, pl. XXIX.15). The coin has been attributed to Azes II and to the mint at Puṣkālavatī, see B. N. Mukherjee, The Location of a Mint of the Azes Dynasty, NC 7 ser. 5 (1965), 109—112. Another unique gold coin in the Central Museum, Lahore, has usually been attributed to an otherwise unknown ruler, Aṭhama (so also CCPM I. no. 399, pl. XIV). The Kharoṣṭhī part of the bilingual inscription has been read as *sa-aṭhama* instead of *Aṭhamasa* and the coin attributed to Azes II, see K. W. Dobbins, E & W n. s. 22.1/2 (1972), 19—22. Two gold punch-marked coins have also been found, see D. Upadhyaya and S. N. Chaturvedi, Two Gold Punch-Marked Coins, JNSI 34 (1972), 153—156.

[1565] Cf. Periplus c. 63 (= Frisk, p. 21.6—7): Λέγεται δὲ καὶ χρυσωρύχια περὶ τοὺς τόπους εἶναι, νόμισμά τε χρυσοῦ, ὁ λεγόμενος κάλτις. Incorrectly understood by D. W. MacDowall, in: Proc. Dushanbe, 254—255, and S. C. Ray, JNSI 30 (1968), 113. See above n. 460.

[1566] So D. W. MacDowall and N. G. Wilson, NC 7 ser. 10 (1970), 230—231; B. B. De, Epigraphic Accounts of the Numismatic History of Bengal, in: D. C. Sircar (ed.), Coins, 142; S. P. Singh, JNSI 35 (1973), 140. In fact imitation Kuṣāṇa or Puri-Kuṣāṇa coins were usually struck in copper. A single gold imitation of a stater of Vasudeva has been found at Sisupalgarh, B. B. Lal, AI 5 (1949), 97, 100—101. For other examples and literature on the Puri-Kuṣāṇa coins see above n. 465. The statement in the 'Periplus' must remain unexplained. The contemporary dynasties of the Gangetic basin appear to have coined primarily in copper, see, for example, A. S. Altekar, Some Alleged Nāga and Vākāṭaka Coins, JNSI 5 (1943), 111—130; Idem, New Kings and Interesting Coin Types from Kauśāmbi, JNSI 4 (1942), 1—16; Idem, Further New Coins from Kauśāmbi, JNSI 4 (1942), 133—145; B. Lahiri, Typological Study of the Local Coins of Northern India, in: A. K. Narain (ed.), Seminar Papers, 36—41; for a summary of coinage found at excavations in the past two decades in the Gangetic Basin see P. Singh, The Stratigraphic Position of Uninscribed Cast Coins, in: A. K. Narain (ed.), Seminar Papers, 105—110. Since coins tend to be imitated only after the supply of genuine issues is cut off or insufficient (cf. P. Berghaus, Umlauf und Nachprägung des Florentiner Guldens nördlich der Alpen, in: Atti Congresso Internazionale di Numismatica [Rome 1965], 2.598—599, 602—603), one is inclined to date Puri Kuṣāṇa coins well after the reign of Kaniṣka. Similarly, in an analogous case in seventh century Assam and Bangladesh, Gupta gold coins were imitated after the demise of that dynasty, see R. D. Chaudhury and M. C. Das, A Find of Gold Coins from Assam, JNSI 35 (1973), 171—174 (on a hoard of such coins from Paglatek).

[1567] For example, K. W. Dobbins, The Aṭhama Gold Coin and the Reign of Azes II, E&W n.s. 22 (1972), 19—24 ascribes two small gold coins from the Central Museum, Lahore (one previously published in R. B. Whitehead, CCPM, pl. XV.399) to Azes II. Another unique gold coin (or medallion) in the British Museum bears the Greek inscription ΤΑΥΡΟΣ on the reverse, see BMC. Greek and Scythic Kings, p. 162, no. 1, pl. XXIX.15; cf. B. N. Mukherjee, Nana on Lion, 71—74, who suggests a local issue of Puṣkālavatī. This seems highly improbable. Excavations at Eran, Sagar Dist., have yielded a single round piece of gold from a late Chalcolithic level, see K. D. Bajpai, Chronological Sequence of the Punch-Marked Coins at Eran, in: A. K. Narain and L. Gopal (eds.), Chronology, 46: Bajpai's conclusion about this being a 'coin' is surely incorrect. Two unique gold punch-marked coins have also been found near Gorakhpur in the Ganges valley, see D. Upadhyaya and S. N. Chaturvedi, Two Gold Punch-Marked Coins, JNSI 34 (1972), 153—156. The earliest literary reference to *suvarṇas* (see below n. 1568) is found in the 'Arthaśāstra' and 'Jātakas' (cf. above n. 1150 for date). In view of the potential for interpolation in all Indian literary works it is inadvisable to argue for the existence of an early indigenous gold currency on the basis of such literary evidence. This is frequently done, e.g. U. Thakur, The First Coins: A Study of Evolution and Growth, in: D. C. Sircar (ed.), Coins, 33—35, 41; cf. A. N. Lahiri, Early Indigenous Coins of Northern India, in: D. C. Sirvar (ed.), Coins, 49, who suggests *suvarṇa* before the Gupta period was only a money of account.

[1568] On the date of these texts see above n. 475. Nasik Inscription no. 10 equates an investment of 70,000 *kārshāpaṇas* with 2,000 *suvarṇas*. Some scholars assume that *suvarṇa* in this inscription refers to Kuṣāṇa gold coins; so A. S. Altekar, JNSI 2 (1940), 40—41. On other numismatic terms in the Nasik inscriptions see V. S. Agrawala, Prati as the Name of a Coin, JNSI 7 (1945), 33—34. In general on *suvarṇa* see V. S. Agrawala, INC 3.2 (1964), 144—145. Some argue that the Nasik inscription furnishes a terminus ante quem for the circulation of Kuṣāṇa gold in Northwest India, e. g. D. W. MacDowall, Proc. Dushanbe, 254. The term *suvarṇa* in the Nasik inscriptions has also been understood as a reference to Roman *aurei*, so B. N. Mukherjee, Kanishka, I.114, n. 48.

[1569] The continued circulation of punch-marked coins in the early centuries of the Christian era has not always been accepted; cf. E. H. C. Walsh, Does the Bairat Hoard Contain a Post-Mauryan Punch-Marked Coin ?, JNSI 9 (1947), 17, who notes that the coinage of Hermaeus is the latest datable coinage which appears in hoards together with punch-marked silver coins; see also on the Bairat hoard P. L. Gupta, Punch-Marked Coins from Bairat, JNSI 8 (1948), 24—29. There is in fact ample evidence that large numbers of silver punch-marked coins continued to circulate through the Indo-Greek, Kuṣāṇa and Indo-Roman periods in various parts of the subcontinent, see P. L. Gupta, The Amaravati Hoard of Silver Punch-Marked Coins (Hyderabad 1963), 144—145. At Sisupalgarh moulds for casting such coins have been found in a level dated by the excavators to A.D. 300, see B. B. Lal, AI 5 (1949), 99, pl. XLIX.A. The Bodinayakkanur hoard of 1940 suggests that silver punch-marked coins still circulated in the South in the Pāṇḍya period; cf. T. G. Aravamuthan, A Pandyan Issue of Punch-Marked Puranas, JNSI 6 (1944), 1—4; cf. J. Prakash, The Bearing of a Study of Hoards on the Chronology of the Punch-Marked Coins, in: A. K. Narain and L. Gopal (eds.), Chronology, 79, who cites a fifteenth century hoard from Karchulha containing 80 such coins. See below n. 1578 for mixed hoards of Roman and punch-marked coins. Most dramatic of all is the small hoard from Weepangandla which contained 17 very worn punch-marked coins, an imitation *aureus* of Constantine and two imitations of seventh century Byzantine *solidi*, see P. L. Gupta, An Interesting Treasure-Trove from Weepangandla (Mahboobnagar), JNSI 34 (1972), 1—8.

[1570] Three Sātavāhana coins were found in the brief excavations at Karhad on the Kistna River; cf. A. S. Altekar, New Sātavāhana Coins, JNSI 10 (1948), 76. The Sātavāhana capital in the second century of our era was located at Paithan to the north of the Kistna River, see V. V. Mirashi, A New Hoard of Sātavāhana Coins from Tarhala (Akola Disrict), JNSI 2 (1940), 94. Also on the circulation of Sātavāhana coins in the south see M. R. Rao, Some Important Sātavāhana Coins, JNSI 18.1 (1956), 45.

[1571] The epigraphic and literary evidence for the use of cowrie shells in India is collected by D. B. Pandey, Cowrie as a Monetary Token in Ancient India, JNSI 28 (1966), 127—136. He cites no certain references earlier than the Gupta period; D. C. Sircar, Some Facts about the Indian Mint and Money During the Late Medieval Period, JNSI 7 (1945), 82—86.

Small gold and silver 'globules' without types or legends have occasionally been found in the South, see W. Elliot, Coins of Southern India (London 1886, repr. Varanasi 1970), 53—54, who calls them gold "spherules"; cf. V. Prakash, Coinage of South India, 18 to 19, who assigns no date to these proto-coins; B. Lahiri, in: D. C. Sircar (ed.), Coins, 81—82 suggests an early Pāṇḍya date for no apparent reason. These gold globules are distinctly reminiscent of the earliest Lydian silver and electrum 'dumps' found in the Artemisium at Ephesus, see E. S. G. Robinson, The Coins from the Ephesian Artemision Reconsidered, JHS 71 (1951), 164. The South Indian coins probably represent a similarly primitive stage in the development of coinage.

The earliest Pallava coins are not securely dated. At Kanchi, where stratigraphic excavations have been conducted, Pallava coins come from the strata above that yielding Sātavāhana coins, see S. Ramayya, The Puzzle of the Pallava Coinage and Some New Pallava Coins, JNSI 29 (1967), 22—28 with a date of A.D. 230—300. Cf. V. Prakash, Coinage of South India, 32—35, 39—41 suggests a date in the second century of our era for the earliest Pallava coins.

[1572] In the Pudukota hoard of 1898 (W67 = G12) 461 of the 499 *aurei* had been defaced with a chisel. In all cases the head was defaced and the intent of the chisel marks is clear from the fact that on coins where a head appears on both obverse and reverse, sometimes both sides have been struck. It is thus impossible to explain the cuts as a test for fineness, as, for example, Gupta has suggested. Hill argued that the cuts were made in India in order to put the coins out of circulation. Theobald subsequently attributed the incisions to an iconoclastic Mohammedan through whose hands the coins may have passed; see on this hoard G. F. Hill, Roman Aurei from Pudukota, South India, NC 3 ser. 18 (1898), 304—320; W. Theobald, Note on Mr. G. F. Hill's Theory Regarding the Defacement of Roman Aurei from Pudukota, NC 3 ser. 19 (1899), 81; cf. G. F. Hill, ibid., 82. In the Nasthulapur hoard of 1852 two of the *denarii* of Augustus and eight of Tiberius had been cut with a chisel, see P. L. Gupta, JNSI 19 (1975), 1—2; Idem, Roman Coins, 73—74, 127—128. Such chisel cuts also appear on many of the coins in the Akkenpalli hoard, see P. L. Gupta, Roman Coins, 63—73, 80—126. It should be noted that the incisions appear also on the local imitations (see below) of Roman coins, e. g. nos. 699—722: imitations of *denarii* of Augustus (type BMCRE, I.519ff.) with one or two incisions on the obverse; nos. 1463—1464, 1468—1493: imitations of *denarii* of Tiberius (type BMCRE, I.34ff.) with one or two incisions on the obverse.

In Greek hoards in Egypt (sixth and fifth centuries B.C.) the chisel marks on silver coins appear to be tests of quality, see C. H. V. Sutherland, Overstrikes and Hoards: The Movement of Greek Coinage down to 400 B.C., NC 6 ser. 2 (1942), 16. But cf. the Tell el-Athrib hoard published by G. Dattari, JIAN 8 (1905), 103—114 in which the statistics suggest a connexion between deep cuts in the edges of the coin and countermarks: 98 of 239 coins are countermarked; 69 have a cut on the edge and of these 52 have countermarks. Cf. the recently published Athenian decree of 375/4 B.C. which gives instructions for ὁ δοκιμαστὴς ὁ δημόσιος (lines 10—11): εὰν δὲ ὑπ[όχαλκον] / ἦ ὑπομόλυβδον ἦ κίβδηλον, διακοπτέτ̣ω πα[ραυτίκ]/α, published by R. S. Stroud, An Athenian Law on Silver Coinage, Hesperia 43.2 (1974), 157—188, esp. commentary on these lines, 168—178, where he stresses that in this case the chisel was not used as a test for impure cores, which was done in some manner not specified in the inscription, but rather to put the coin out of circulation; cf. the criticisms of A. Giovannini, Athenian Currency in the Late Fifth and Early Fourth Century B.C., GRBS 16.2 (1975), 191—194. Published finds of plated coins which have received this treatment are rare, cf. a halved plated silver tetradrachm published by G. Taylor, A Halved Tetradrachm from Cyrene, Berytus 22 (1973), 23—24.

[1573] Such punch-marks (59 different varieties) occur on many of the *denarii*, both genuine and imitation, in the Akkenpalli and Nasthulapur hoards. Usually the obverse or reverse of a coin bears one punch-mark, but in some cases there are as many as three. These countermarks are usually of a basic geometric type: dots, crescents, circles and stars. In detail most of these bear little resemblance to the punch-marks on the local Indian silver coins. For the publication of both hoards see previous note.

[1574] This is clear from the fact that they also appear on Indian imitation *denarii* in the Akkenpalli hoard.

[1575] A wide variety of obverse and reverse Indian punch-marks can be assembled from numerous studies of individual hoards and collections. See E. H. C. Walsh, Paila Hoard of Punch-Marked Coins, JNSI 21 (1940), 15—78, pl. I—IV; Idem, Examination of a Hoard of 105 Silver Punch-Marked Coins Found in the United Provinces in 1916, JNSI 3 (1941), 2—8, pls. I and II; Idem, A Comparative Study of the Patraha (Purnea) Hoard of Silver Punch-Marked Coins, JNSI 3 (1942), 81—132; Idem, A Note on the Six Silver Punch-Marked Coins Described by Babu Shri Nath Sah, JNSI 4 (1943), 13—16; A. S. Altekar, A New (Kosala ?) Variety of Silver Punch-Marked Coins, JNSI 9 (1947), 1—5; P. K. Ray, The Salipur Hoard of Silver Punch-Marked Coins, OHRJ 12.3 (1964), pls. XXXI—XXXII; P. K. Deo, Forgotten Forts of Kalahandi (Part I), OHRJ 14.3/4 (1966), 43—59, pl. XII (a lengthy list of punch-marks). On the striking of these coins see T. G. Aravamuthan, Notes on Punch-Marked Puranas, JNSI 9 (1947), 6—16. Patterns of single pricks such as those on some of the coins in the Akkenpalli hoard may occasionally appear on punch-marked coins; cf. D. D. Kosambi, Silver Punch-Marked Coins with Special Reference to the East Khandesh Hoard, JNSI 8 (1946), 64. For comparison of

South Indian punch-marks with graffiti symbols on pottery see T. V. MAHALINGAM, in: A. K. NARAIN and L. GOPAL (eds.), Chronology, 24—25.

[1576] It was once frequently suggested that commercial guilds in India were responsible for many of the punch-marks on the punch-marked coinage, so first V. C. SMITH, CIM I. p. 133; also E. H. C. WALSH, JNSI 2 (1940), 26; A. S. ALTEKAR, Kasarwad Hoard of 'Ujjain' Coins, JNSI 8 (1946), 104 (in regard to copper coins); A. N. LAHIRI, JNSI 35 (1973), 1—2,10. It is, however, clear now that the basic minting authority in ancient India was the royal government, see L. GOPAL, The Right of Minting Coins in Ancient India, JAHRS 26 (1960/61), 149—154, esp. 152—153, where a new explanation of Arthaśāstra II.14 (the basis for the earlier theory about corporate minting) is given, but GOPAL also argues that merchant guilds may have been granted the right to strike some coins; U. THAKUR, Further Observations on the Mints of Ancient India, INC 3.1 (1962), 71—77 dates the complete establishment of a royal monopoly as late as the Gupta period; cf. K. D. BAJPAI, Authority of Minting Coins in Ancient India, JNSI 25.1 (1963), 17—21. The evidence for so-called *negama* coins comes almost exclusively from Taxila, J. PRAKASH, Geographical Distribution, Chronology and the Issuing Authority of Local Taxilan Coins, in: A. K. NARAIN (ed.), Seminar Papers, 18—22; J. P. SINGH, Negama and City Coins, in: D. C. SIRCAR (ed.), Coins, 101—106 suggests that these coins were 'tokens' issued by Taxila guilds; cf. N. AHMAD, Uninscribed Cast and Inscribed Coinage, JAIH 4.1/2 (1970—71), 177—179. The best evidence for the prevalence of such guilds comes from a group of c. 1,000 seal impressions on 720 pieces of clay excavated at Basarh; see T. BLOCH, Excavations at Basarh, ASI AnRep (1903/04), 101—122. The impressions include inscriptions attesting seals of the Gupta royal family, high government officials and 274 specimens belonging to a large commercial guild: *sreṣṭhi-sārthavāha-kulika nigama*: "The corporation of bankers, traders (and) merchants" (p. 110, no. 29, cf. no. 28). Frequently these were found on the same piece of clay together with seals of individuals styled as bankers or traders (e.g. p. 114, no. 76, p. 115, no. 77, p. 117, no. 99).

[1577] From the works of WALSH and others cited above it would appear that the number of different punch-mark types put on a coin in any given period was relatively small and that the large numbers of types represented in hoards may be accounted for by several centuries of issues by a number of dynasties. In our case, however, since all of the coins are of relatively uniform wear and arrived in India over a comparatively short period of time, a time span of several centuries for the various marks is rather unlikely, although by no means impossible.

[1578] At Chandravalli 5 Roman *denarii* were found in various strata together with Sātavāhana coins, see R. E. M. WHEELER, AI 4 (1947/48), 200, 287—290; the Eyyal hoard contained 12 *aurei*, 71 *denarii* and 34 silver punch-marked coins, see N. G. UNNITHAN, JNSI 25.1 (1963), 22—28, and P. L. GUPTA, The Early Coins from Kerala, 62—83; at Weepangandla three gold imitations of late Roman and Byzantine coins were found together with 17 punch-marked coins, see P. L. GUPTA, JNSI 34 (1972), 1—8; at Tondamanathan in 1918 6 *aurei* were found together with 27 silver punch-marked coins; the Nasthulapur hoard contained 39 *denarii* and 8 punch-marked coins, see P. L. GUPTA, JNSI 19 (1957), 1—4. The *stupa* deposits, in which Roman coins are found together with Kuṣāṇa coins, pose different problems and possibly do not belong to this group of mixed hoards (see above pp. 630—631). The same conclusion as in the text was reached by B. D. CHATTOPADHYAYA, Some Currency Problems of Ancient and Early Medieval South India, in: D. C. SIRCAR (ed.), Coins, 132—133.

[1579] The Nasthulapur hoard contained one barbarized imitation of Augustus (type BMCRE, I.519 ff.) and one of Tiberius (type ibid., 34 ff.). The Akkenpalli hoard contained 24 imitations of Augustus of the same type and 31 imitations of Tiberius (same type). The literature for both hoards is cited above.

[1580] See, for example, BMCRE, I. pls. 14.5—7.

[1581] See D. G. KAPANADZE, O prodolzhitel' nosti obrashcheniia denariev Avgusta i drakhm Gotarsu v drevnei Iberii, SA (1962), 4. p. 64, fig. 1.1—7, all imitations of Augustan *denarii* of the type BMCRE, I.519ff.

[1582] For a study of Roman laws which pertain to counterfeiting see P. GRIERSON, The Roman Law of Counterfeiting, in: R. A. CARSON and C. H. V. SUTHERLAND, Essays in Roman Coinage Presented to Harold Mattingly (Oxford 1956), 240—256. A hoard of struck, die-linked, plated imitation *serrati* and *bigati* found at Cologne together with pottery which dates the context to about the reign of Tiberius suggests that merchants on the Rhine sought by such forgeries to take advantage of the German preference for older Republican *denarii* (cf. above n. 1420), see E. NUBER and P. LABAUME, Ein Fund früher Denare in Köln, zur Lokalisierung des Oppidum Ubiorum, KJVFG 10 (1968), 40—43.

[1583] It has been argued that all plated coins are counterfeits and none are official products of the mint, as was once believed; so M. H. CRAWFORD, Plated Coins — False Coins, NC 7 ser. 8 (1968), 55—59. On the characteristics of Roman counterfeit coins see J. GRAF, Münzverfälschungen im Altertum, ZfN 35 (1903), 76, 93, 102—104, 107—110. For finds of moulds for casting coins see bibliography of M. JUNGFLEISCH and J. SCHWARTZ, Les moules de monnaies impériales romaines. Essai bibliographique, ASAE Suppl. 19 (1952); updated J. SCHWARTZ, Supplément à la bibliographie des moules de monnaies impériales romaines, SM 13.49 (1963), 12—14; cf. recently the large Pachten find of moulds, M. R. ALFÖLDI, Die Gußformen und gegossenen Fälschungen kaiserzeitlicher Münzen, Chiron 1 (1971), 353—363 who argues on the basis of the Pachten find that the moulds were primarily for the casting of base metal coinage, which was not illegal before A.D. 326. Heavily debased cast imitations of officially struck Alexandrian tetradrachms have been found in considerable numbers in Egypt, see A. E. EL-KHACHAB, Les monnaies coulées fausses et les moules monétaires et à bijoux du Cabinet des Medailles du Musée du Caire, ASAE 51 (1951), 33—37 (most of those published are from Nero's reign). I wish to express my gratitude to Dr. W. E. METCALF of the American Numismatic Society Museum who has provided me with information about a hoard of imitation tetradrachms (c. 75) purchased by NEWELL at Luxor in 1908 (to appear in the forthcoming issue of RBN). All the coins are struck (a unique feature) and all but three imitate Neronian types, the rest are of Hadrian. For the dominance of Neronian tdrs. in Egyptian finds as late as Commodus see J. C. MILNE, Report on Coins Found at Tebtunis in 1900, JEA 21 (1935), 212. The complaint about receiving 8 σα[πρ]οὐ(ς) στατῆρες in P. Yale 79 (c. A.D. 150) must refer to one or the other of these classes of imitations.

[1584] Moulds used to counterfeit Kuṣāṇa coins are frequently found: a clay mould from Atranji Khera, Etah Dist., B. SAHINI, The Technique of Casting Coins in Ancient India, 43, and B. N. MUKHERJEE, Nana on Lion, 39—40; another such mould in the Allahabad Municipal Museum from Jhusi is described by B. N. MUKHERJEE, ibid., 44, n. 68; a mould for imitating gold coins of Huviṣka from Khokhrakot: V. S. AGRAWALA, A Kushana Coin-Mould from Rohtak, JNSI 17 (1953), 68—69. A list of find sites of moulds for casting various ancient Indian coins may be found in U. THAKUR, INC 3.1 (1962), 81—96. For laws against counterfeiting see Arthaśāstra IV.4; cf. discussion in L. GOPAL, JAHRS 26 (1960/61), 151.

[1585] In 1899 an Indian imitation of an *aureus* of Faustina was found in the Kistna District, see: Report on the Administration of the Madras Presidency during the year 1899—1900 (Madras 1900), 222; in 1942 an imitation *aureus* of Commodus with a barbarized legend was found at Chakerbedha, see T. G. ARAVAMUTHAN, The Chakerbedha Find of Two Aurei, JNSI 7 (1945), 6—10. The most splendid of all imitations is an unpublished *aureus* found in India of which a cast is now in the ANS Museum. The original was an issue for Caracalla of the type BMCRE V.283, pl. 34.5 (A.D. 201—206), the obv. has a bust of Caracalla, laureate, draped, cuirassed, facing right, with the legend ANTONINUS PIVS AVG; the rev. has an intricate and complex scene: a ship with mast and fittings, on the deck are tripods and standing figures, above are four *quadrigae*, two on the left and two on the right, one behind the other, under the ship is a series of animals including

a lion, a bull, a cock, etc., the legend has LAETITIA above and TEMPORUM in exergue. The Indian craftsman who cut the die for the imitation misunderstood much of the detail but performed his task with care and skill. The bust on the obverse shows a remarkable likeness to the original and lacks the harsh schematic appearance typical of such imitations, the drapery is misunderstood and the legend barbarized. The reverse of the imitation has a ship, a tree with spreading branches stands in the middle in place of the mast, sail and *quadrigae* of the original, the animals below the ship are rendered by a series of bumps which appear to be waves, the legend has been replaced by a series of tick-marks.
Of considerable interest also is a gold coin from Sisupalgarh: the obv. is imitated from a coin of Vasudeva and has a Brahmi legend, the rev. bears the head of a Roman emperor with barbarized lettering, see B. B. LAL, AI 5 (1949), 97, 100—101 (by A. S. ALTEKAR); and IDEM, JNSI 12.1 (1950), 1—4. See also the barbarized lettering on an imitation *aureus* found in Poland; cf. A. GUPIENIEC, Kraśnik, WN 7.4 (1963). In the Ukraine and Caucasus most imitation *aurei* are also copies of second and third century *aurei*, but they are found individually in such small numbers, frequently perforated, that their major use must have been as jewellery rather than in commerce, so L. N. KAZAMANOVA and V. V. KROPOTKIN, Podrazhaniia rimskim zolotym monetam II—III vv n. e., VDI (1964), 1.140—148. Like the Indians, the northern tribes in close proximity to the Roman frontier attempted to imitate the Greek and Latin legends on coins; a further phenomenon may have developed among the latter. Letters of the Latin and Greek alphabets have been found on pottery at Ripnev, Budeshti, Lepesovka Kosanovo and Olt, all sites of the Cherniakhov Culture, and it has been argued that such graffiti came to have magical significance, see I. S. VINOKIR, Nekotorye voprosy dukhovnoi kul'tury Cherniakhovskikh plemen, SA (1969), 1.48—61; cf. above nn. 372 and 373.

[1586] The circulation of Roman coins in ancient Transcaucasia is an interesting phenomenon. It is clear from their association with coins of second and even third century date in a considerable number of tombs that *denarii* of Augustus (L. and C. Caesar type) circulated for centuries here after their original date of import. Furthermore local imitations of this coin type were struck, which in their earliest phase are only distinguishable from the products of the Roman mint by slight errors in the legends (e. g. 22 *denarii* from the Bagineti find of 1944), see D. G. KAPANADZE, O prodolzhitel'nosti obrashcheniia denariev Avgusta i drakhm Gotapsa v Drevnei Iberii, SA (1962), 4.69—75. In the region north of the Caucasus most Roman imitation coins are copied from the *denarii* of Marcus Aurelius, L. N. KAZAMANOVA and V. V. KROPOTKIN, VDI (1964), 1.147. These coins seem not to have arrived by sea, since they are rare in the cities of Colchis, e. g. 205 Roman coins were recovered in seven years of excavations at Pitsunda (ancient Pityus), see D. G. KAPANADZE, Numizmaticheskie nakhodki Pitsundskoi arkheologicheskoi ekspeditsii za 1953—1959gg., VDI (1966), 4.173—179 (most of the Roman bronze coinage at the site is from Trapezus). Imitations of the staters of Alexander and Lysimachus remained in circulation in Iberia and Colchis until the first century of our era. At this time (i. e. in the second and third centuries) they were replaced by imitations of Roman *aurei* ranging from Augustus through Valerian, D. G. KAPANADZE, Novye nakhodki podrazhanii rimskim aureusam v Gruzii, VDI (1970), 4.83—85, pls. I—II. See also the imitation *denarii* of the C. and L. Caesar type of Augustus which circulated in the area of ancient Colchis, see K. V. GOLENKO, Denezhnoe obrashchenie Kolkhidy v rimskoe vremia (Leningrad 1964), 108 nos. 124—130, pl. VII. A typical site in the region, such as Kldeeti or Bori, yielded *denarii* of Augustus, Parthian drachms, imitation staters of Alexander and didrachms, drachms and hemidrachms from Caesarea. At the cemetery in Zguderi, Georgia, 32 L. and C. Caesares *denarii* of Augustus were found together with a single *denarius* of the reign of Antoninus Pius and 13 *aurei* from Domitian to Gordian III, see K. V. GOLENKO and D. G. KAPANADZE, Monety, naidennye v selenii Zguderi (Gruzinskaia SSR) v 1964—1965gg., VDI (1968), 1.160—166.

[1587] For second and third century *aurei* see the following finds: a small find of *aurei* made in 1931 containing coins up to Hadrian, W14 = G25; an *aureus* of Domitian was found in the Madura District, W25 = G16; an *aureus* of Caracalla which was purchased as if from the large Kottayam hoard of Julio-Claudian gold, but which probably came from a separate find (see above n. 1406); in 1889 15 *aurei* were found at Vinukonda, Tiberius 2, Vespasian 1, Domitian 1, Hadrian 2, Antoninus Pius 5, Marcus Aurelius 2, Commodus 1, Caracalla 1, see E. THURSTON, On a Recent Discovery of Roman Coins in Southern India, NC 3 ser. 9 (1889), 325—328; a hoard of *aurei* was found in the Ongole area in 1908, only an *aureus* of Nero and another of Hadrian were recovered, W33 = G34; in 1786 a hoard of *aurei* was found at Nellore, of which over 30 were recovered but only 9 were published, Trajan 3, Hadrian 5, Antoninus Pius 1, E. THURSTON, MGMCC 2^2.7, and R. SEWELL, JRAS (1904), 630—631; three *aurei* were found at Gaiparti in 1953, one each of Claudius, Trajan, and Antoninus Pius, P. L. GUPTA, Roman Coins, 62, pl. XXVI.1045 to 1947; an *aureus* of Trajan was found at Athirala in 1838, J. BIRD, Observations on the Bactrian and Mithraic Coins in the Cabinet of the Bombay Branch of the Royal Asiatic Society, JBBRAS 1 (1843), 245, and W. ELLIOT, Early Roman Intercourse with India, IA 2 (1973), 242; in 1915 4 *aurei* were found at Mallayapalam, Nero 1, Trajan 2, Antoninus Pius 1, W28 = G33; in 1928 23 Roman gold coins were found at Gumala, the latest coin in the hoard was an issue of Constantine, W11 = G45; in 1933 a hoard of *aurei* was found at Nandyal, the latest of the 52 coins recovered was issued by Marcus Aurelius, P. L. GUPTA, Roman Coins, 60; in the excavations at Nagarjunakonda an *aureus* of Hadrian and another of Faustina were found, Report on the Administration of the Madras Presidency for the year 1936/37 (Madras 1938), 190, and IAR 1956/57, 38, pl. LX; in 1840 a hoard of *aurei* was found at Dharphul, the 18 coins recovered included issues of Antonius Pius, Lucius Verus, Commodus and Septimius Severus, ANONYMOUS, Gold Roman Coins found in India, NC 1 ser. 5 (1843), 202; an *aureus* of Septimius Severus was found at Waghoola, O. CODRINGTON, Notes on the Cabinet Coins of the Bombay Branch, Royal Asiatic Society, JBBRAS 18 (1890—94), 38; in 1942 an *aureus* of Commodus was found at Chakerbedha, T. G. AGRAVAMUTHAN, JNSI 7 (1945), 6—10; a hoard containing gold issues of Gordian III and Constantine was found at Bamanghati, A. CUNNINGHAM, ASIAnRep 13 (1882), 72; an *aureus* of Lucius Verus was found at Nagdhara, O. CODRINGTON, JBBRAS 18 (1890—94), 38.

[1588] The best description of the Madras finds is in R. H. C. TUFNELL, Hints to the Coin-Collectors in Southern India, II, MJLS (1887/88), 161—163.

[1589] The Colombo Museum cabinet contains issues of the early Empire (see Alexandrian tetradrachms listed above n. 672), but no provenance is given for the *denarii*, see H. W. CODRINGTON, Ceylon Coins, 36—39. The earliest reported find of Roman coins on the island occurred in 1584 or 1585 at Ceilao, when Portuguese workmen found one gold and two bronze coins under what were described as "vestiges of Roman buildings", see D. FERGUSON (ed.), The History of Ceylon, From the Earliest Times to 1600 A.D. as Related by Joao de Barros and Diogo do Conto, JCBRAS 60 (1908), 83—84. Roman artifacts, apart from coins, have been found only at the site of the ancient port of Mahatittha. For the importance of Mahatittha as a port in Antiquity see B. J. PERERA, The Foreign Trade and Commerce of Ancient Ceylon: The Ports of Ancient Ceylon, CHJ 1.2 (1951), 109—112.

[1590] Over twelve thousand such copper coins had been found in Ceylon by early in this century, see J. STILL, Roman Coins Found in Ceylon, JCRAS 19 (1907), 161—188; W. H. CODRINGTON, Ceylon Coins, 31—32. M. P. CHARLESWORTH, Johnson Studies, 134, n. 20 suggests that the fourth century hoards in Ceylon may be explained by the improved weight standard of the new imperial currency (why this should be reflected in the import of Æ coinage is obscure to me).

[1591] The major sites are as follows: Sigiriya, 1,675 Roman or Indo-Roman; Kolugala, over 200 Roman; Watapuluva, 1,500 small bronze; Colombo, over 300; Kitalagama, 80; Kapuhenwala, 348, one Indo-Roman; Valaichchenai, 300 of a larger find recovered; Kantarodai, 150 small bronze, one Indo-Roman. See lists in W. H. CODRINGTON, Ceylon Coins, 32—33. Finds of gold coins are very rare: at Hendala a *solidus* of Anastasius;

between Veyangoda and Mirigama an Indo-Roman *semissis*; from Galle (?) a *tremissis* of Heraclius; ibid., 32—33, 45.

[1592] The holdings of the Colombo Museum are probably representative of these finds, see W. H. Codrington, Ceylon Coins, 39—45 (Roman bronze); 45—48 (Indo-Roman). Several badly worn coins of this type found on the surface near Colombo were presented to me for examination in summer 1975 at the American Numismatic Society Museum in New York by Professor P. R. Franke. The A.N.S. Museum also has in its cabinets three coins of this type said to have been found in Ceylon. In both collections only imitations of issues of Arcadius could be identified. At Naimana about 350 copper coins have come to light in various parts of the town which appear to be imitations of Roman copper coins, J. Still, JCBRAS 19 (1907), 166—168.

[1593] So R. Sewell, JRAS (1904), 609—615. It can also be argued that the movement of bronze coins, unlike silver and gold, actually represents the movement of merchants and travellers, so L. Robert, Etudes de numismatique grecque, 77 n. 8 and G. LeRider, in: M. Mollat (ed.), Sociétés, 122.

[1594] So R. H. C. Tufnell, MJLS (1887/88), 161, 163.

[1595] See the list in: W. H. Codrington, Ceylon Coins, 39—45.

[1596] On the rarity of late Roman bronze hoards from the Near East see M. Todd, A Late Roman Bronze Hoard from the East Containing Die Links, NC 7 ser. 4 (1964), 235—236. For early fourth century hoards in the Levant see P. Bastien, Trouvaille de *folles* au Liban (294—307), RN 6 ser. 9 (1967), 166—208 who publishes a hoard purchased in Beirut and compares its contents with contemporary hoards from Aleppo, Homs and Diarbekir. In all of these hoards a very large portion of the coins are the product of Western mints.

On the decreased use of coins in Egypt in third century agricultural accounts see J. Bingen, Les comptes dans les archives d'Héroninos, CE 26 (1951), 378—382.

Twenty small bronze coins (Gordian III to Arcadius) are also said to have been found in Abyssinia, see A. Anzani, RIN 4ser. 43 (1941), 87. It is also possible that some of the Alexandrian tetradrachms found on Ceylon arrived at this time. These coins continued to circulate in Egypt beside the *folles* in the fourth century. The Theadelphia hoard (c. A.D. 314/315) contained 33 tetradrachms and 172 *folles*, see K. Regling, Münzschatz aus Theadelphia, ZfN 29 (1912), 117—131.

A general picture of the circulation of coinage in Egypt in the fourth and fifth centuries can be pieced together from the reports of individual finds and the documents. A small find from Antinoe (34 coins of Constantine I) suggests that early in the fourth century fresh coins were a significant portion of the coinage in circulation in some areas. Other finds from the 1914 excavations include numbers of cast coins, barbarous imitations and lead tokens, see J. G. Milne, NC 6ser. 7 (1914), 108—114. For a classification of the bronze imitations, some of which are struck and may be official or semi-official products, see J. G. Milne, The Currency of Egypt in the Fifth Century, NC 5ser. 6 (1926), 48—61 who argues that some of the struck imitations of Western mints may be the products of a governor's mint in Carthage (against Wroth, BMC Vandals, Ostrogoths and Lombards, p. xviii who suggests that they are the issues of Vandal kings in Africa). A considerable number of hoards are now available from which to form a picture of the coinage of fourth and fifth century Egypt for comparison with Ceylon: a hoard of Constantine I from Antinoe, J. G. Milne, Report of the Coins Found at Antinoe in 1914, 6 ser. 7 (1947), 108—114; a hoard buried c. A.D. 314/315 at Theadelphia, K. Regling, ZfN 29 (1912), 112—138; a hoard from Quael-Kebir buried c. 480, J. G. Milne, NC 5 ser. 6 (1926), 65—92; a hoard buried c. 430 at Karanis, ibid.; a fifth century hoard from Hawara, W. M. Flinders Petrie, Hawara, Biahmu and Arsinoe (London 1889), no. 2 republished with revisions in J. G. Milne, NC 5 ser. 6 (1926), 65—92; a hoard of 650 fourth century Æ and Hawara hoard no. 6 buried c. A.D. 400/410, containing 3,182 coins, were published by J. G. Milne, Two Roman Hoards of Coins from Egypt, JRS 10 (1920), 169—184 and Idem, NC 5 ser. 6 (1926), 65—92; six hoards from Hawara are published in J. W. E. Pearce, More Late Aes from Egypt, NC 5 ser. 18 (1938), 117—126: no. 1 about 1126 fragmentary Æ buried c. A.D. 420, no. 2 43 Æ buried c. 480, no. 3 880 Æ buried c. 480 including a considerable number of barbarized imitations, no. 4 348 Æ buried at the end of the fifth century, no. 5 127 Æ buried c. 420, only 5 are genuine, the remainder are imitations apparently produced by punching a thin sheet of metal and a few are cast, no. 6 c. 1,300 imitations buried perhaps c. A.D. 500; Idem, A Late Hoard of Æ 3 and Æ 4 from Egypt, NC 5 ser. 11 (1931), 318—319: a hoard of about 1,300 Æ buried in the early fifth century, the imitations are unusual for the large amount of lead used in the alloy; J. G. Milne, A Hoard of Constantinian Coins from Egypt, JIAN 6 (1914), 1—27: a hoard of 6476 Æ buried in the mid-fourth century, cf. the new analysis of the full hoard (6527 coins) and publication of 25 variations not found in P. V. Hill, J. P. C. Kent and R. A. G. Carson, Late Roman Bronze Coinage A.D. 324—498, in: F. H. Armstrong, The Ihnasyah Hoard Re-examined, Phoenix 19 (1965), 51—60; J. Lallemand, Trésor de bronzes romains trouvé en Égypt, CENB 2.1 (1965), 2—4: a hoard of 222 Æ buried in the fourth century, cf. Idem, Trésor de monnaies romaines en bronze découvert en Égypte: Constant à Constance Galle, CE 41 (1966), 380—381 revisions of the earlier publication of the hoard lowering the total to 219; J. Schwartz, La circulation monétaire dans l'Égypte du IVe siècle, SM 9 (1959), 40—44, a hoard from Luxor buried c. A.D. 308 of which 100 of c. 1,000 *folles* are published here; C. J. Kraemer and T. G. Miles, An Early Fourth-century Hoard from Egypt, ANSMN 5 (1952), 65—68: a hoard of 1054 *folles* buried before A.D. 305; J. Lallemand, Trésor de petits bronzes romains découvert en Égypte: Constance II — Constant à Arcadius-Honorius, CE 48 (1973), 157—178: 289 Æ buried late in the fourth century, only 8 were imitations; W. E. Metcalf, The 'Cairo' Hoard of Tetrarchic Folles, RBN 120 (1974), 74—107: a hoard of 1851 *folles* buried c. A.D. 310. J. Schwartz, Sur quelques trésors du 4e siècle, SM 24 (1974), 45—48: 2 hoards on the antiquities market from Egypt, one of 119 *folles* buried c. A.D. 311 in which 23.5% of the coins were from Antioch and Alexandria. The Royal Ontario Museum contains 15,000 Æ of Constantine many of which were acquired for the museum from Dattari in Egypt, the most noteworthy of these are published by J. S. Wilkinson, Roman Coins from Egypt in the Royal Ontario Museum, Cornucopiae 3.1 (1975), 11—14. For the discovery of fourth century moulds for casting coins in Egypt see, for example, R. Mowat, Le titre d'Augusta conféré à Maesa, à Soaemias at à Mammée par Septime Sévère, à propos de moules monétaires trouvés en Égypte, RN 4 ser. 12 (1908), 18—19 and A. E. El-Khachab, ASAE 51 (1951), 42—51.

[1597] For example in Poland over 1,400 sites have yielded hoards and single finds, cf. M. Gumowski, Monety rzymskie w Polsce, Sprawozdania Towarzystwa nautowego w Toruniu 6 (1955), 77—79. The largest hoards contain from 5000—6000 *denarii.*

[1598] For the tradition of a Jewish migration to the cities of Malabar, see M. N. Adler, The Itinerary of Benjamin of Tudela (London 1907), 4; accepted by M. P. Charlesworth in: Johnson Studies, 132—133; P. Daffina, The Early Spread of Christianity in India: an Old Problem Re-examined, E&W n.s. 9.3 (1958), 187—191. The earliest firm evidence for Jewish settlement in India is from a considerably later period, see S. Levi, Quelques documents nouveaux sur les Juifs du Sud de l'Inde, REJ 89 (1930), 26—32.

[1599] See the study of A. Mingana, The Early Spread of Christianity in India, BJRL 10 (1926), 435—514, who links the early settlement of Christians in India to the sea trade via the Persian Gulf. It has been argued on the basis of the silence in Bardaisan's 'Liber Legum', where mention is made of Christian communities in the East (Pat. Syr. II. 606—608) that no Christian community existed in India at the end of the second century. The earliest mention of the mission of St. Thomas (apart from in the Acts) is in the Syriac 'Doctrine of the Apostles', cf. W. Cureton, Ancient Syriac Documents, p. 33. Syrian Christianity moved eastward at an early date along the sea route to India. For A.D. 224 the Syriac 'Chronicle of Arbela' is able to record the existence of Christian

Bishoprics on the Persian Gulf coast of Arabia and the island of Bahrein, see E. Sachau, Die Chronik von Arbela, 22—27, 61—62 and J. Dauvillier, L'expansion de l'eglise syrienne en Asie Centrale et en Extrême-Orient, L'Orient Syrien 1 (1956), 80. The so-called St. Thomas Mount cross found in Southern India has a Pahlavi inscription which is palaeographically dated to the seventh century or later, see T. K. Joseph, St. Thomas's Crosses and St. Thomas Tradition, IHQ 8 (1932), 785—789. A somewhat similar cross was found at Anuradhapura in Ceylon. At one time attributed to an early period, it appears in fact to belong to Portuguese times, see D. T. Devendra, The Date of the Anurādhapura Cross, JCBRAS n.s. 5 (1956), 85—89. See also on these inscriptions C. P. T. Winckworth, A New Interpretation of the Pahlavi Cross Inscriptions of Southern India, JTS 30 (1929), 237—244 = KSP 3 ser. (1930), 159—164, cf. observations of T. K. Joseph, ibid., 164—166. The known crosses, all with the same inscription (one from Mt. St. Thomas, one from Travancore and four from Kottayam), have been republished by B. T. Anklesaria, The Pahlavi Inscriptions on the Crosses in Southern India, JCOI 39 (1958), 64—107; a new transcription and translation of the inscription has been published by G. Gropp, Die Pahlavi-Inschrift auf dem Thomaskreuz in Madras, AMI N.F. 3 (1970), 267—271.

[1600] Ptolemy, Geog. I.17.3: ὁμολογεῖται . . . παρά τε τῶν ἐντεῦθεν εἰσπλευσάντων καὶ χρόνον πλεῖστον ἐπελθόντων τοὺς τόπους καὶ παρὰ τῶν ἐκεῖθεν ἀφικομένων πρὸς ἡμᾶς, ...

[1601] For the excavations at Al Mina see C. L. Woolley, Excavations at Al Mina, Sueidia, JHS 58 (1938), 1—30, 133—170; for the Greek pottery from the site see M. Robertson, The Excavations at Al Mina, Sueidia, IV. The Early Greek Vases, JHS 60 (1940), 2—21; J. D. Beazley, The Excavations at Al Mina, Sueidia, III. The Red Figured Vases, JHS 59 (1939), 1—44; J. Boardman, Early Euboean Pottery and History, ABSA 52 (1957), 5—9, 24—25; the presence of Greek potters in the city is argued by J. Boardman, Greek Potters at Al Mina?, AnSt 9 (1959), 161—169; for the local pottery excavated at the site see J. du P. Taylor, The Cypriot and Syrian Pottery from Al Mina, Syria, Iraq 21 (1959), 62—92; for the chronology of the site see J. Boardman, Tarsus, Al Mina and Greek Chronology, JHS 85 (1965), 12—15.

[1602] See Herodotus II.179 on Naucratis: Ἦν δὲ τὸ παλαιὸν μούνη Ναύκρατις ἐμπόριον και ἄλλο οὐδὲν Αἰγύπτου· εἰ δέ τις ἐς τῶν τι ἄλλο στομάτων τοῦ Νείλου ἀπίκοιτο, χρῆν ὀμόσαι μὴ μὲν ἑκόντα ἐλθεῖν, ἀπομόσαντα δὲ τῇ νηὶ αὐτῇ πλέειν ἐς τὸ Κανωβικόν· ἢ εἰ μή γε οἷά τε εἴη πρὸς ἀνέμους ἀντίους πλέειν, τὰ φορτία ἔδεε περιάγειν ἐν βάρισι περὶ τὸ Δέλτα, μέχρι οὗ ἀπίκοιτο ἐς Ναύκρατιν.

[1603] Herodotus II.152, 154, 163; III.11. Also the Greek inscriptions at Abu Simbel left by mercenaries in the army of Psammetichus II during his expedition into Nubia (591 B.C.) now published in: A. Bernand and O. Masson, Les inscriptions d'Abou-Simbel, REG 70 (1957), nos. 1 (this is the largest of the texts and mentions the Egyptian commander of the foreign troops, Potasimto), 2—6. These texts are republished in: R. Meiggs and D. Lewis, A Selection of Greek Historical Inscriptions (Oxford 1969), no. 7.a–g. On the Ethiopian expedition of Psammetichus II see S. Sauneron and J. Yoyotte, La campagne nubienne de Psammétique II et sa signification historique, BIFAO 50 (1952), 157—207. A full list of archaic Greek inscriptions from Egypt was published in: L. H. Jeffery, The Local Scripts of Archaic Greece (Oxford 1961), 354—355, 358—359, nos. 48—54, to which add G. Wagner, Stèle funéraire de Kobôn, ZPE 12.3 (1973), 173—176 an inscription from Husseneiah in the Delta palaeographically dated to the fifth century B.C.

[1604] Alcaeus mentions the mercenary service of his brother Antimenidas against the Babylonians: ἦλθες ἐκ περάτων γᾶς ἐλεφαντίναν / λάβαν τὼ ξίφεος χρυσοδέταν ἔχων / . . . τὸν ἀδελφὸν 'Αντιμενίδαν . . . φησὶν 'Αλκαῖος Βαβυλωίοις συμμαχοῦντα τελέσαι / ἄεθλον μέγαν, εὐρύσαο δ' ἐκ πόνων / κτένναις ἄνδρα μαχαίταν βασιληίων / παλάσταν ἀπυλείποντα μόναν ἴαν / παχέων ἀπὺ πέμπων, cf. D. Page, Sappho and Alcaeus (Oxford 1955), 223—224 who notes that three dates for these events are possible: 601, 597 and

588—586 B.C.; see also C. M. BOWRA, Greek Lyric Poetry, from Alcman to Simonides^{2} (Oxford 1961), 135.

[1605] For references to Ionians see PTT, nos. 15, 21; PFT nos. 1224 (mentions Ionian women), 2072. A single tablet written in Greek was also found among the Persepolis Fortification Tablets, see R. T. HALLOCK, PFT, p. 2 (Fort. 1771). The document is dated by the semitic calendar and probably originates from an area where this was in use, cf. G. G. CAMERON, The Persian Satrapies and Related Matters, JNES 32 (1973), 52—53. See in general on Ionian craftsmen at Persepolis, G. GOOSSENS, La Nouvelle Clio 1 (1949), 35—44; J. P. GUEPIN, On the Position of Greek Artists under Achaemenid Rule, Persica 1 (1963/64), 34—43 who concluded that the Greeks at Persepolis were not free.
On Greeks in Babylonia in the sixth century B.C. see W. F. ALBRIGHT, Cilicia and Babylonia under the Chaldaean Kings, BASOR 120 (1950), 25 and M. MEULEAU, JESHO 8 (1965), 70—71. Ionians are also mentioned in the trilingual text of the inscription recording the building of a palace at Susa by Darius I. For the Elamite version of the text see W. HINZ, The Elamite Version of the Record of Darius' Palace at Susa, JNES 9 (1950), 1—7, esp. p. 2, line 42. Line 41 of the text describes the Ionians as *mar-ri-ip*, i. e. captives or prisoners, so HINZ. CAMERON translates the word as "artisan" and argues that forced prisoners would not have been paid, G. G. CAMERON, JNES 17 (1958), 162, 165, n. 9; IDEM, New Tablets from the Persepolis Treasury, JNES 24 (1965), 169.

[1606] For Naucratis see above n. 1602; for a Palmyrene temple in a Parthian city see above n. 782.

[1607] Cf. M. P. CHARLESWORTH, in: Johnson Studies, 142.

[1608] The only passage in Tamil poetry which can be construed to refer to a Graeco-Roman merchant colony in Southern India occurs in the Cilappadigāram 5.10 in a description of the port of Pahār, V. R. RAMACHANDRA DIKSHITAR, The Silappadikaram or Lay of the Anklet (Oxford 1939). For *Yāvāna* craftsmen see K. A. NILAKANTA SASTRI, The Colas, 108. Three passages are of importance: Nappūdanār, Mulleippāṭṭu 59—62; Cilappadigāram 14.66—67 and Manimēgalei 19.107—108. For discussion of problems in interpreting the meaning of these texts see P. MEILE, JA 232 (1940), 106—113, 115—117. I know of no evidence for GOETZ' statement that in the third century Roman mercenaries served the Kṣatrapa kings, see H. GOETZ, E&W n. s. 10 (1959), 262.
A very interesting piece of evidence is the inscription of the artist of Tita on the third and fourth century wall-paintings at Miram. The very Western appearance of the murals led SIR AUREL STEIN to suggest that Tita was the Indian rendering of the Roman name Titus. The Western elements in the wall-paintings are all found elsewhere (including in the Tarim Basin) in Gandhara art. See on this inscription above n. 704. The architect of the Kuṣāṇa sanctuary at Surkh Kotal also bears a Greek name, Palamedes. For the Palamedes inscription see R. CURIEL, JA 242 (1954), 195 and the re-edition of this text in J. HARMATTA, AAntHung 13 (1965), 149—164 (see literature cited above n. 686). The work of Western craftsmen has also been seen by some to be visible in some works of Gandhara art, see B. ROWLAND, Gandhara, Rome and Mathura: The Early Relief Style, ACASA 10 (1956), 15.

[1609] The evidence cited above for Egypt shows the presence of the same three elements: mercenaries, skilled craftsmen and merchants.

[1610] For the flexible meaning of *Yāvāna* see above n. 843.

[1611] See particularly the remarks of M. P. CHARLESWORTH, in: Johnson Studies, 139—142.

[1612] This was true particularly of Mambanus, the king who controlled Barygaza. The Periplus c. 43 (= FRISK, p. 14.21—29 — p. 15.1—3) describes the difficulties involved in finding the entrance of the river at Barygaza because of the low profile of the shoreline and the dangerous shoals. Hence the king has pilot vessels to bring the Roman ships into port, see Periplus c. 44 (= FRISK, p. 15.4—10): Τούτου χάριν περὶ αὐτὸν

τὸν εἴσπλουν βασιλικοὶ ἁλιεῖς ἐντόπιοι πληρώμασιν μακρῶν πλοίων, ἃ λέγεται τράππαγα καὶ κότυμβα, πρὸς ἀπάντησιν ἐξέρχονται μέχρι τῆς Συραστρήνης, ἀφ' ὧν ὁδηγεῖται τὰ πλοῖα μέχρι Βαρυγάζων. Κλίνουσιν γὰρ εὐθὺς ἀπὸ τοῦ στόματος τοῦ κόλπου διὰ τὰ τενάγη τοῖς πληρώμασιν καὶ ῥυμουλκοῦσιν αὐτὰ σταθμοῖς ἤδη τεταγμένοις, ἀρχομένης δὲ τῆς πλήμης αἴροντες, ἱσταμένης δὲ διορμίζοντες κατά τινας ὅρμους καὶ κυθρίνους.

[1613] Periplus c. 52 (= Frisk, p. 17.17—21): Τοπικὰ δὲ ἐμπόρια κατὰ τὸ ἑξῆς κείμενα 'Ακαβαρου Σούππαρα καὶ Καλλίενα πόλις, ἡ ἐπὶ τῶν Σαραγάνου τοῦ πρεσβυτέρου χρόνων ἐμπόριον ἔνθεσμον γενομένη· μετὰ γὰρ τὸ κατασχεῖν αὐτὴν Σανδάνην ἐκωλύθη ἐπὶ πολύ· καὶ γὰρ τὰ ἐκ τύχης εἰς τούτους τοὺς τόπους ἐσβάλλοντα πλοῖα 'Ελληνικὰ μετὰ φυλακῆς εἰς Βαρύγαζαν εἰσάγεται. See above n. 1355 for the various interpretations put on this passage. Similar regulations seem to have been enforced by the Indo-Parthian rulers at Barbaricum, cf. Periplus c. 39 (= Frisk, p. 13.5—6): Τὰ μὲν οὖν πλοῖα κατὰ τὴν Βαρβαρικὴν διορμίζονται, τὰ δὲ φορτία πάντα εἰς τὴν μητρόπολιν ἀναφέρεται διὰ τοῦ ποταμοῦ τῷ βασιλεῖ.

[1614] The Arthaśāstra describes an economy subject to close royal supervision and control in which all aspects of economic life are carefully regulated. It is uncertain, however, to what extent this tract reflects any scheme of government which ever existed in India. Trade is closely supervised, prices set on some articles and some goods are monopolized by the royal government. As Stein long ago pointed out, much of this does not agree with the eyewitness account of Megasthenes; see O. Stein, Megasthenes and Kautilya (Vienna 1921); F. Wilhelm, Das Wirtschaftssystem des Kautilya Arthaśāstra, JESHO 2 (1959), 295—307. Cf. G. B. Upreti, Avadanas on the Political Role of the Traders, BudSt (1974), 89—91 who argues that from the Mauryan to the Sātavāhana period traders and merchants played an increasingly important role in the royal bureaucracy.

[1615] For control of strangers in India see O. Stein, op. cit., 251. Cf. Philostratus, VA II.23, where the messengers of the king of Taxila inform Damis and Apollonius: ὡς ποιοῖτο αὐτὸν ὁ βασιλεὺς ξένον ἐς τρεῖς ἡμέρας, μὴ γὰρ πλειόνων νενομίσθαι τοὺς ξένους ἐνομιλεῖν τῇ πόλει .... There is no other evidence to suggest that this reflects an actual Indian law.

[1616] S. K. Maity, Economic Life in Northern India², 89—91.

[1617] See R. B. Revere, 'No Man's Coast': Ports of Trade in the Eastern Mediterranean, in: K. Polanyi, C. M. Arensberg and H. W. Pearson, Trade and Market in the Early Empires (New York 1957), 57—61 on Al-Mina and Ugarit (but the author's discussion of Alexandria is based on a misunderstanding of the evidence); A. C. Chapman, Port of Trade Enclaves in Aztec and Maya Civilizations, in: ibid., 114—146 on the numerous small ports of trade of ancient Mesoamerica; R. Arnold, A Port of Trade: Whydah on the Guinea Coast, in: ibid., 154—176, and Idem, Separation of Trade and Market: Great Market of Whydah, in: ibid., 177—187 on the great slave port of Whydah in the African kingdom of Dahomey in the early modern period; A. Leeds, The Port-of-Trade in Pre-European India as an Ecological and Evolutionary Type, PAES (1961), 26—48 on medieval and early modern period in India; K. Polanyi, Ports of Trade in Early Societies, JEH 23 (1963), 30—45 on the marketless economies of the Akkadian and Assyrian periods; Idem, Traders and Trade, in: J. A. Sabloff and C. C. Lamberg-Karlovsky (eds.), Ancient Civilization and Trade, 149—152. The essence of the structure is that such ports are areas designated by a sovereign power, where, under close supervision, foreign merchants could land their wares. Polanyi repeatedly emphasizes that in such ports prices are fixed by the monarch who controls the town and that a market economy, in the sense of prices fixed on the basis of supply and demand, does not exist.

[1618] A clear statement of these regulations may be found in Herodotus II.179, cf. text cited above n. 1602. For epigraphic evidence of the control of trade at the frontiers in Pharaonic Egypt see above n. 1196. The monopolistic economic regulation practised by the Ptolemies may also owe some debt to Pharaonic models, see U. WILCKEN, Schmollers Jahrbuch 45.1/2 (1921), 91—92; F. M. HEICHELHEIM, Recent Discoveries in Ancient Economic History, Historia 2 (1953), 131, cf. C. PRÉAUX, Sur les origines des monopoles Lagides, CE 29 (1954), 312—327.

[1619] See the third century list of Ptolemaic ordinances in P. Hib. II.198, esp. 110—122: οἱ] / πλείον[τες εἰς τὸν π]οταμὸν ὁρμίζεσθαι προτ[ιθέτωσαν ἡμέρας] / ἐν τοῖς ἀ[ποδεδει]γ̣μ̣ένοις τ̣[ό]ποις· νυκτὸς δὲ ‛μ’ μ̣[. . . . .] /ουνται [c. 9] . [. . . . . . ἀπ]ολέσ̣ωσιν ε̣ὐ̣ . [ ] / ἐὰν δέ τι[νες ὑπὸ] χ̣ειμῶ̣νος [ἐπι]κληθέντες ο̣[ὐκ οἷοι ὦσιν] ἐπ’ ἀκτῆς ὁ[ρμισ]θ̣ῆ̣ναι παρελθόντ[ε]ς̣ ἐπὶ τ[ὸν ὅρμον καὶ τὰ] / συγκύρον[τα], προσαγγελλέτωσαν τοῖς φυ[λακίταις τήν] / τε αἰτίαν κ̣[α]ὶ̣ τ̣ὸν τόπον ἐν ὧι ὡρμίσθησαν. Cf. on this passage, C. KUNDEREWICZ, Ad Papyrus Hibeh 198, JJP 15 (1965), 140—141 and commentary of R. S. BAGNALL, Some Notes on P. Hib. 198, BASP 6.3/4 (1969), 93—96 (who notes the difficulty in interpreting the geographic allusions behind ποταμός and ἀκτή and also has emendations to the text).

[1620] Such regulations of shipping are implied by various documents e. g. SIG^3.435 = WELLES, RC no. 25, a letter of Ziaelas, king of Bithynia, to Cos in regard to the question of Coan merchants states καὶ τῶν / πλειόντων τὴν θάλασσαν / ὅσοι ἂν τυγχάνωσιν τῶν ὑμε/τέρων προσβάλλοντες τοῖς / τόποις ὧν ἡμεῖς κρατοῦμεν, / φροντίζειν ὅπως ἡ ἀσφάλει[α] αὐτοῖς ὑπάρχῃ· κατὰ ταὐτὰ [δὲ] καὶ οἷς ἂν συμβῇ πταίματός [τι]/νος γενομένου κατὰ πλοῦν / προσπεσεῖν πρὸς τὴν ἡμετέ[ραν] / πᾶσαν σπουδὴν ποιεῖσθαι ἵν[α] / μηδ’ ὑφ’ ἑνὸς ἀδικῶνται. For date of c. 240 B.C., see WELLES, RC, pp. 120—121. See also the text of the first treaty between Rome and Carthage which stipulates that anyone driven by enemy action or storm beyond the Fair Promontory μὴ ἐξέστω αὐτῷ μηδὲν ἀγοράζειν μηδὲ λαμβάνειν πλὴν ὅσα πρὸς πλοίου ἐπισκευὴν ἢ πρὸς ἱερά (Polybius III.22.6). WALBANK is certainly correct in noting that the clause reflects Carthaginian rather than Roman practice, see F. W. WALBANK, A Historical Commentary on Polybius (Oxford 1957), 342—343. See also the next clause of the same treaty (III.22.8—9): τοῖς δὲ κατ’ ἐμπορίαν παραγινομένοις μηδὲν ἔστω τέλος πλὴν ἐπὶ κήρυκι ἢ γραμματεῖ. ὅσα δ’ ἂν τούτων παρόντων πραθῇ, δημοσίᾳ πίστει ὀφειλέσθω τῷ ἀποδομένῳ, ὅσα ἂν ἢ ἐν Λιβύῃ ἢ ἐν Σαρδόνι πραθῇ. Cf. on these clauses E. FERENCZY, Die römisch-punischen Verträge und die Protohistorie des *commercium*, RIDA 16 (1969), 259—282.

[1621] For the Roman regulation of commerce on the Rhine frontier, see Tacitus, Hist. IV.64.1; the embassy of the Tencteri speaks before the council of Colonia Agrippinensis: . . . *vobisque gratulamur, quod tandem liberi inter liberos eritis; nam ad hunc diem flumina ac terram et caelum quodam modo ipsum clauserant Romani, ut conloquia congressusque nostros arcerent, vel, quod contumeliosius est viris ad arma natis, inermes ac prope nudi sub custode et pretio coiremus.* The people of the town answered, IV.65.3: *vectigal et onera commerciorum resolvimus: sint transitus incustoditi, sed diurni et inermes,* . . . . For the Danube see Tacitus, Germ. 41: *Hermundurorum civitas, fida Romanis; eoque solis Germanorum non in ripa commercium, sed penitus atque in splendidissima Raetiae provinciae colonia. Passim et sine custode transeunt; et cum ceteris gentibus arma modo castraque nostra ostendamus, his domos villasque patefecimus non concupiscentibus.* See also Marcus Aurelius' negotiations with the Quadi, Dio LXXII.11.3: οὐ μέντοι καὶ τῆς ἐπιμιξίας τῆς ἐν ταῖς ἀγοραῖς ἔτυχον, ἵνα μὴ καὶ οἱ Μαρκομάνοι οἵ τε ’Ιάζυγες, οὓς οὔτε δέξεσθαι οὔτε διήσειν διὰ τῆς χώρας ὠμωμόκεσαν, ἅμα μιγνύωνταί σφισι καὶ ὡς Κούαδοι καὶ αὐτοὶ ὄντες τά τε τῶν ‛Ρωμαίων κατασκέπτωνται καὶ τὰ ἐπιτήδεια ἀγοράζωσιν. — and for his arrangements with the Marcomani see Dio LXXII.15: τοῖς Μαρκομάνοις . . . τὰ χωρία τάς τε ἡμέρας τῆς ἐπιμιξίας ἀφώρισε . . . . Later certain provisions of the harsh treaty imposed on the Iazyges were rescinded, μᾶλλον δὲ πάντα πλὴν τῶν κατά τε τὰς συνόδους αὐτῶν καὶ κατὰ τὰς ἐπιμιξίας συγκειμένων . . . . (Dio LXXII.19.2). On the policy of Marcus Aurelius on this frontier see A. R. BIRLEY, Roman Frontier Policy under Marcus Aurelius, in: Seventh International Congress of Roman Frontier Studies, 1967 (Tel Aviv 1971), 10—11.

[1622] As is argued by M. P. Charlesworth, in: Johnson Studies, 141—142.

[1623] The evidence for such embassies is collected and analysed in the following: O. de B. Priaulx, On the Indian Embassies to Augustus, JRAS 17 (1860), 309—321; Idem, On the Second Embassy to Rome (Pliny, Nat. Hist. VI.24), JRAS 18 (1861), 345—361; Idem, On the Indian Embassies to Rome from the Reign of Claudius to the Death of Justinian, JRAS 19 (1862), 274—298; Idem, ibid., 20 (1863), 269—312; U. Kahrstedt, Über Gesandtschaften aus fremden Ländern an römische Kaiser, in: L. Friedländer, Sittengeschichte Roms 4^{10} (Leipzig 1921), 7—10. It is frequently assumed that their purpose was commercial, so, for example, H. Kortenbeutel, Süd- u. Osthandel, 57; B. J. Perera, The Foreign Trade and Commerce of Ancient Ceylon, III, CHJ 1.4 (1952), 302; M. P. Charlesworth, in: Johnson Studies, 140—141; B. N. Mukherjee, An Agrippan Source, 9, n. 38.
Diplomatic contact with Arabia is suggested also by a passage of the 'Periplus'; cf. E. Kornemann, Janus 1 (1921), 60—61, who argues that ἔνθεσμος βασιλεύς in Periplus c. 23 (= Frisk, p. 7.28) indicates a prince recognised by a treaty arrangement with the Roman Empire. The same passage also indicates extensive diplomatic contact with Rome (the initiative in this case rested with the Arabs): συνεχέσι πρεσβείαις καὶ δώροις φίλος [δὲ] τῶν αὐτοκρατόρων (Periplus p. 7.29—30). On φίλος τῶν αὐτοκρατόρων as a legal expression see T. Mommsen, Staatsrecht 3.1.591—595; E. Täubler, Imperium Romanum (Leipzig 1913), 44—46, 125, 457.

[1624] See, for example, the account of an embassy from 'Poros' king of India in Nicolaus of Damascus' Ἱστορίαι (FGrHist. no. 90 F100). For the suggestion that ἐμπόριον is a technical term with legal significance, see M. P. Charlesworth, in: Johnson Studies, 139—140, who supposes that the status of harbours thus designated was determined by treaties between the Roman emperor and Indian rulers. The application of the term ἐμπόριον νόμιμον in the 'Periplus' to the ports of Adulis, Muza and Apologos is explained by Palmer as "a trading-place where law applies", i. e. "a place where foreigners' contracts are protected by law", cf. J. A. B. Palmer, Periplus Maris Erythraei: ἐμπόριον νόμιμον and Other Expressions, CQ n.s. 1 (1951), 156—158. Nor was Augustus likely to be sympathetic to such appeals for extra-territorial rights; e. g. in the case of an appeal brought by the island of Chios that the Romans on the island be subject to Chian law, he ruled in favour of the Chians: οἵ τε παρ' αὐτοῖς ὄντες Ῥω[μαῖ]οι τοῖς Χείων ὑπακούωσιν νόμοις (SIG^3 785; A.D. 5—14).

[1625] On the continued use of Greek in the East in the Roman period see above n. 771.

[1626] There is little evidence that anyone in the West knew any Indian languages at all well. For Indian words in Hesychius see the study of R. Goossens, Gloses indiennes dans le Lexique d'Hésychius, AC 12 (1943), 47—55. Little can be made of other theories which suggest that Ptolemy used as one of his sources a translated Purāṇa text, so E. H. Johnson, JRAS (1941), 221—222. It has also been argued that by way of translations from Egypt an Indian epic, the 'Mahābhārata', had an influence on Vergil's 'Aeneid', see J. Lallemant, Une source de l'Énéide: le Mahābhārata, Latomus 78 (1959), 262—287, but this is a mere flight of fantasy; see also V. Pisani, Indisch-griechische Beziehungen aus dem Mahābhārata, ZDMG 103.2 (1953), 126—139.
Much of the controversy has centred on a single papyrus, P. Oxy. III.413 (the Charition mime; cf. $Pack^2$, no. 1745). The speaking parts of the Indians are written in Greek letters but are clearly not Greek. Hultzsch thought that he could identify some of the vocabulary involved as belonging to the Kanarese dialect, see E. Hultzsch, Hermes 39 (1904), 307—311.

[1627] See, for example, the controversy over P. Oxy. XI.1380, which lists the various names of Isis; line 103 states ἐν Ἰνδοῖς Μαῖαν. The identification with Māyā, the mother of Buddha, has been suggested, see E. Norden, Die Geburt des Kindes (Leipzig 1924, repr. Darmstadt 1969), 112—113, n. 2; cf. O. Stein, Indologica Pragensia 1 (1929), 42—46, who rejects the attribution; so also A. Dihle, PCPhS 190 (1964), 21, n. 4.

DIHLE, ibid., 21—23 notes that, since all pagan authors of any literary pretention rely for descriptions of India on early Hellenistic material, references to Buddhism are not likely to occur in them.

[1628] For the travels of Christians to India see R. HENNIG, Indienfahrten abendländischer Christen im frühen Mittelalter, AfK 25 (1935), 269—280; D. M. DERRETT, The Theban Scholasticus and Malabar in c. 355—360, JOAS 82 (1962), 21—31.

[1629] In general on supposed Buddhist influence on Christianity: H. DE LUBAC, Textes alexandrins et bouddhiques, Recherches de science religieuse 27 (1937), 336—351; cf. J. SCHWARTZ, Die Rolle Alexandrias bei der Verbreitung Orientalistischen Gedankenguts, ZPE 1 (1967), 211 (who rejects such hypotheses). For theories of an Indian influence on Hippolytus see J. FILLIOZAT, La doctrine des brahmanes d'après saint Hippolyte, RHR (1945), 59—91, revised as 'La Doctrine Brahmanique à Rome au IIIe Siècle', in: Les Relations, 31—60; cf. T. W. R. DAVIDS, What Has Buddhism Derived from Christianity?, JPTS (1920/23), 37—53, who argues that similarities in the two religions are due to social conditions rather than direct contact. See the call for a renewed study of the problem in: W. H. C. FREND, Some Cultural Links between India and the West in the Early Christian Centuries, Theoria to Theory 2 (1968), 309—311.

[1630] Its existence in the Former Han period was first proposed by P. PELLIOT, Deux itinéraires de Chine en Inde à la fin du VIIe siècle, BEFEO 4 (1904), 142—143; so also O. FRANKE, Geschichte 1.22, 340, 410; A. C. SEN, Chinese Pilgrims in Ancient India, IAC 6 (1958), 271.

[1631] Cf. S. CAMMAN, Review of P. C. Bagchi, India and China . . . . , FEQ 12 (1952), 58, who points out the weakness of assuming its existence on the basis of Chang Ch'ien's report that he saw what he identified as "Szechwan cloth" and bamboo in Bactria (see above n. 161). Also rejected by W. LIEBENTHAL, The Ancient Burma Road — A Legend, JGIS 15.1 (1956), 1—15, who denies the existence of such a route and suggests instead a route from Yünnan through Tibet to India.

[1632] The author of the 'Periplus' has some faint knowledge of an approach to the frontiers of China from the south beginning in the area east of the Ganges, but mentions it only in connection with the procurement of malabathrum. Silk, he notes, came overland by way of Bactria, cf. c. 64 and 65 (= FRISK, p. 21.11—29 — p. 22.1—6). For literary evidence of Former Han penetration toward the Southwest see the translation of 'Han shu' 95 by A. WYLIE, History of the South-Western Barbarians and Chaou-Seen, JRAI 9 (1880), 55—96; H. BIELENSTEIN, Restoration, 3.57—63, cf. 83—85, who explains Han interest in Yünnan on the basis of the existence of an ancient Burma road. Western Szechwan is particularly rich in Han remains, cf. W. FRANKE, Gräber aus dem 2. Jahrhundert n. Chr. in Ssu-ch'uan, Sinologica 2.4 (1950), 294—298, who deals with the thousands of cave graves around Lo-shan, Hsin-chin and Chiang-k'ou. For the abundance of Han remains in Szechwan see TE-K'UN CHENG, Archaeological Studies in Szechwan (Cambridge 1957), 140—147.

The most important archaeological discovery ever made relating to Chinese penetration in this direction comes from Shih-chai shan near Chin-ning, Yünnan. Excavations there in 1955—1957 uncovered 22 rich tombs of the Former Han period containing thousands of objects produced by the indigenous non-Chinese culture as well as Chinese imports. The basic publication of the excavation is 'Yün-nan Chin-ning Shih-chia-shan ku-mu Ch'ün fa-chüeh pao-kao', 2 vols. (Peking 1959). The gold seal found at the site inscribed *Tien Wang chih yin* (seal of the King of Tien) may possibly be the very one granted by Wu-ti to the King of Tien in 109 B.C. (SC 116; HS 95).

On the legal status of the King of Tien, who in effect governed a Han prefecture, see KURIHARA TOMONOBA, Kinin 'Tenō no in' to 'Gishi' Fuyoden ni mieru 'Kaio no in' to ni tsuite, Kodaigaku 8 (1959), 10—15; cf. RBS (1959), no. 385.

See also the description of a route from Yünnan to Assam in the 'Wei-lio', E. CHAVANNES, TP 2 ser. 6 (1905), 551—552. Evidence for Indian influence at the Chinese end of this route comes only from the eighth and ninth centuries, see the Sanskrit inscriptions found in Yünnan published by W. LIEBENTHAL, Sanskrit Inscriptions from Yünnan I, MS 12 (1947), 1—40; IDEM, Sanskrit Inscriptions from Yünnan II, SIS 5.1 (1955), 46—68; IDEM, A Sanskrit Inscription from Yünnan, SIS 3.1/2 (1947), 52—61.

[1633] Periplus c. 63 (= FRISK, p. 20.29—30—p. 21.1; p. 21.7—10): Μετὰ δὲ ταῦτα εἰς τὴν ἀνατολὴν καὶ τὸν ὠκεανὸν ἐν δεξιοῖς ἐχόντων, εὐώνυμα δὲ τὰ λοιπὰ μέρη ἔξωθεν παραπλεόντων, ὁ Γάγγης ἀπαντᾷ καὶ ἡ περὶ αὐτὸν ἐσχάτη τῆς ἀνατολῆς ἤπειρος, ἡ Χρυσῆ . . . Κατ' αὐτὸν δὲ τὸν ποταμὸν νῆσός ἐστιν ὠκεάνιος ἐσχάτη τῶν πρὸς ἀνατολὴν μερῶν τῆς οἰκουμένης, ὑπ' αὐτὸν ἀνέχοντα τὸν ἥλιον, καλουμένη Χρυσῆ[ν], χελώνην ἔχουσα πάντων τῶν κατὰ τὴν 'Ερυθρὰν τόπων ἀρίστην.

[1634] Some scholars have attributed various passages of Pliny to regions east of India. See, for example, P. PARIS, Note sur deux passages de Strabon et de Pline, JA 239 (1951), 13—27, who argues that NH VI.84—88 (description of Taprobane) refers to Sumatra rather than Ceylon. Also J. FILLIOZAT, JA 262 (1973), 121—128, who argues that *mons Maleus* in NH VI.69 is Gunung Indrapura on the west coast of Sumatra.

[1635] So J. P. VOGEL, Ptolemy's Topography of India: his Sources, Archaeologica Orientalia in Memoriam Ernst Herzfeld (New York 1952), 226—234, who notes that Ptolemy's rendering of Indian names is remarkably accurate. VOGEL (p. 234) also believes that Ptolemy's sources are mostly contemporaneous with the author himself (cf. W. W. TARN, GBI², 232—240); also J. P. VOGEL, Ujjhān-Ujjihāna-Ozoana, JRAS (1955), 27. For an effort to reconstruct the ancient trade routes between Taxila and Ujjain and Taxila and the Ganges delta on the basis of Ptolemy, see P. H. L. EGGERMONT, JESHO 9.3 (1966), 258—275. Note the deliberate rejection of such contemporary source material in Strabo XV.1.4: Καὶ οἱ νῦν δὲ ἐξ Αἰγύπτου πλέοντες ἐμπορικοὶ τῷ Νείλῳ καὶ τῷ 'Αραβίῳ κόλπῳ μέχρι τῆς 'Ινδικῆς σπάνιοι μὲν καὶ περιπεπλεύκασι μέχρι τοῦ Γάγγου, καὶ οὗτοι δ' ἰδιῶται καὶ οὐδὲν πρὸς ἱστορίαν τῶν τόπων χρήσιμοι.

[1636] In detail WHEATLEY, who has investigated the problem at great length, concludes that Ptolemy's 'Geography' "conceals more than it reveals of conditions during the second century", P. WHEATLEY, Desultory Remarks on the Ancient History of the Malay Peninsula, in: J. BASTIN and R. ROOLVINK (eds.), Malayan and Indonesian Studies (Oxford 1964), 36—37.
It has been suggested that the latitudes given by Ptolemy for the 'Golden Chersonese' were adjusted by an anonymous later author on the basis of new information, see E. POLASCHEK, Imago Mundi 14 (1959), 24,34—35; but since these are clearly erroneous, such speculation serves little purpose.

[1637] The lengthiest exposition of this view may be found in P. WHEATLEY, The Golden Khersonese (Kuala Lumpur 1961), 120—159, and IDEM, in: Malayan and Indonesian Studies, 36. Other theories have been put forward, for example, H. v. MZIK, Einführung, 46, n. 1 suggests the delta of the Irawaddy; R. BRADDELL, Notes on Ancient Times in Malaya: Takola and Kataha, JMBRAS 22.1 (1949), 1—7, 16 locates Ptolemy's Takola at Trang in Malaya. The identification is, however, accepted in other studies; see E. POLASCHEK, Imago Mundi 14 (1959), 35; B. E. COLLESS, The Traders of the Pearl, II, Abr-Nahrain 10 (1970—1971), 102—103. The identification is criticized by T. HARRISSON and S. J. O'CONNOR, Gold in West Borneo, SMJ 17 (1969), 48—53, 59, n. 11, who prefer on the basis of the many gold objects found in Borneo to include that island as well in this term.

[1638] For Kattigara see L. MALLERET, L'Archéologie du Delta du Mékong, 3 (Paris 1963), 421—454.

[1639] Many have suggested that this sea route became after A.D. 166 a major commercial link for Roman merchants seeking to bypass the Parthians; so F. HIRTH, in: ChSt I.19; M. P. CHARLESWORTH, Trade Routes², 72; G. COEDÈS, Some Problems in the Ancient History of the Hinduized States of South-east Asia, JSEAN 5.2 (1964), 5; cf. A. DIHLE, PCPhS 190 (1964), 16: "many Greco-Roman tradesmen came to the harbours of Indo-China". Such theories are based on the embassy from *Ta-Ch'in* recorded under the year A.D. 166; on the reliability of this account see above n. 849.

[1640] For the accidental discoveries at P'ong Tük see G. Coedès, The Excavations at P'onk Tük and their Importance for the Ancient History of Siam, JSS 21.3 (1928), 195—209. For the bronze lamp "of Graeco-Roman style" found at the site, see: ibid., esp. 197—198, 204—206, pl. 19. Also found was a small Buddha of the Amarāvatī type and dated to the second century of our era, ibid., 203—204. There were no significant architectural remains but images of the Dvāravatī school (fifth and sixth centuries) suggested to Coedès that the site dated from before the sixth century and was abandoned before the ninth century. A second expedition led by Quaritch Wales explored the site in the winter 1935/36. The new finds were all attributed to the Dvāravatī period, see H. G. Quaritch Wales, Further Excavations at P'ong Tük (Siam), IAL 10 (1936), 42—48. For the lamp from the site see C. Picard, La lampe alexandrine P'ong Tuk (Siam), Artibus Asiae 2 (1955), 137—149, figs. 1—3 who identifies the lamp as an Alexandrian product of the Ptolemaic period.

[1641] The French excavations at Oc-eo produced glass beads identified as "Roman"; a gold medallion of Marcus Aurelius and another of Antoninus Pius of the year A.D. 152; a Sasanian seal, see G. Coedès, Fouilles en Cochinchine: Le site de Go Oc Eo, ancien port du royaume de Fou-nan, Artibus Asiae 10.3 (1947), 196—199; R. Braddell, JMBRAS 24.3 (1951), 156; cf. L. Malleret, L'archéologie du Delta du Mékong, 2. La civilisation matérielle d'Oc-eo (Paris 1960), 229, nos. 455—459 who suggests that some of the cymbals found at the site may be Roman imports. The gold *dodecahedroi* found at the site also appear to be local copies of Roman imports, see L. Malleret, Les dodécaèdres d'or du site d'Oc-èo, Artibus Asiae 24 (1961), 343—350. For a description of the site and its situation near an ancient canal from the Gulf of Siam, see L. Malleret, L'archéologie du Delta du Mékong, 1. L'exploration archéologique et les fouilles d'Oc-eo (Paris 1959), 101—119, 187—198 (with aerial photographs). Other finds in Thailand include the bronze figurine from Tra Vinh in the Guimet Museum, said by Picard to be an oriental copy of the Isthmian Poseidon of Lysippus, cf. C. Picard, A Figurine of Lysippan Type from the Far East: The Tra Vinh Dancer, Artibus Asiae 19 (1956), 342—349. More recent excavations in Thailand have turned up a western intaglio from Kancanaburi and two further intaglios derived from Hellenistic models at Dong Si Maha Pot, see J. Boisselier, Travaux de la Mission Archéologique Francaise en Thailande (Juillet—Novembre 1966), ArtsAs 25 (1972), 52. A lamp found at Phra Pathom and another from Prah Pithu have been described as Roman, see L. Malleret, Une lampe romaine au Musée de Phnom Penh, BSEI n.s. 32.2 (1957), 187—188; an earthenware 'Roman style' lamp (the excavator considers it an imitation) was found at the Dvāravatī site of Muang Bon, see H. G. Quaritch Wales, Müang Bon, A Town of Northern Dvāravatī, JSS 53.1 (1965), 4. At Chansen in Thailand the Dvāravatī period of the site has produced figurines of nude boys wearing about their necks objects which have been compared with Roman *bullae*, see E. Lyons, JSS 61.1 (1973), 193—201; a silver bowl described as imitation Megarian was excavated in 1935 from a brick tomb (and therefore Han or later) at Dong-son in Vietnam, see O. R. T. Janse, Quelques reflexions à propos d'un bol de type megareen, trouvé au Viet Nam, Artibus Asiae 25 (1962), 280—289.

[1642] So G. Coedès, Artibus Asiae 10.2 (1947), 199; L. Malleret, L'archéologie du Delta du Mékong, 179. For Funan in Chinese texts from the third to the seventh century see P. Pelliot, BEFEO 3 (1903), 248—303 and L P. Briggs, The Ancient Khmer Empire, TAPhS 41.1 (1951), 17—32. On the maritime empire of Funan see G. H. Luce, JBRS 14.2 (1924), 140—144; Wang Gungwu, JMBRAS 31.2 (1958), 38—39; P. Wheatley, The Golden Khersonese, 285—289; G. Coedès, JSEAH 5.2 (1964), 4.

[1643] Cf. R. Braddell, JMBRAS 24.3 (1951), 156.

[1644] Malleret dates much of the material from Oc-eo into the period from the fourth to the sixth century, L. Malleret, L'archéologie du Delta du Mékong, 1.251. Phases III and IV at Chansen in Thailand show contact with Oc-eo and are dated in part by radiocarbon readings to c. A.D. 250—600, see B. Bronson and G. F. Dates, Excavations at Chansen, Thailand 1968 and 1969: A Preliminary Report, AP 15 (1972), 24—25, 31—35.

[1645] The pottery lamps of Roman style from the Philippines and from Palaua may be imports or an independent local development, see I. de Beauclair, On Pottery of Micronesia, Palauan Lamps and Mediterranean Lamps in the Far East, BIEAS 21 (1946), 206—211. Diogo do Counto cites in his work on Ceylon Lucius Marinaeus Siculus, 'De las Casas Memorables de España' (1539) who wrote that Pedro Colon found an *aureus* of Augustus while excavating the foundations of a building in the Philippines (Spanish Indies), see Diogo do Counto's work translated in: D. Ferguson, JCBRAS 60 (1908), 84.

[1646] Many of the beads found at the sites discussed below were attributed to Roman or Mediterranean commerce by H. C. Beck, Man (Oct. 1930), art. no. 134, 176—181. Particular emphasis is placed on these 'Roman' beads by Hsu Yun Ts'iao, JSSS 5.2 (1948), 1—2 and Han Wai Taon, ibid., 19.

[1647] E. g. W. G. N. van der Sleen, Ancient Glass Beads with Special Reference to the Beads of East and Central Africa and the Indian Ocean, JRAI 88.2 (1958), 208—212, 215 in his discussion of the 'trade-wind' bead complex of Zanzibar assumes that such beads arrived at their present sites immediately after their date of manufacture.

[1648] The most extreme example of this is the discovery that some beads previously classified as 'Roman' were being manufactured by the Dutch East India Company, see W. G. N. van der Sleen, A Bead Factory in Amsterdam in the Seventeenth Century, Man (Nov. 1963), art. no. 219, 172—174. Modern imitations by Kelabit natives of ancient beads similar to those found in the Niah caves are also known, B. Harrisson, Niah's Cave of Bones, SMJ 8 (1958), 606; T. Harrisson and L. Medway, Prehistoric Bone and Tooth Artifacts, SMJ 10 (1962), 340.

[1649] For beads from Oc-eo see L. Malleret, Les lapidaires et artisans du verre de Virampatnam, ArtsAs 6.2 (1959), 99. At Chansen in Thailand, which has yielded many monochrome glass beads, phases III and IV (A.D. 250—600) show contact with Oc-eo, B. Bronson and G. F. Dales, AP 15 (1972), 24—25, 31—35 (the beads are unfortunately not assigned to any phase).

[1650] For Indian objects at Oc-eo see G. Coedès, Artibus Asiae 10.2 (1947), 196—197 (inscribed Indian gems). Tin pendants and amulets, some with South Indian Brāhmī inscriptions palaeographically assigned to the second to fourth centuries, have been found in considerable numbers at Oc-eo, see L. Malleret, L'art et la metallurgie de l'étain dans la culture d'Oc-èo, Artibus Asiae 11 (1948), 281—284. For local glass production at Oc-eo see L. Malleret, ArtsAs 6.2 (1959), 99. Local production of a type of bead produced at Arikamedu is also suggested by the find of bead-manufacturing materials at Pengkalan Bujang, see A. Lamb, JGS 8 (1966), 85. For bead production at Kuala Selinsing see I. H. N. Evans, JFMSM 12 (1928), 124—125. Bead production is also attested for Santubong Island off Sarawak, see H. H. Everett and J. Hewitt, A History of Santubong, an Island off the Coast of Sarawak, JSBRAS 52 (1909), 7—9.

[1651] Small blue and green glass beads have been found in tombs at Lach-truong, Bim-son and Ngoc-am (the latter yielding about 5,000 small blue glass beads), see O. R. T. Janse, Archaeological Research in Indo-China, 1 (Cambridge, Mass. 1947), 51, pl. 75.1; also in tomb 2 at Hoanh-chung an egg-shaped object of green glass was found, ibid., 54; see also Idem, Archaeological Research in Indo-China, 2 (Cambridge, Mass. 1951), 61, 63 on beads found at Lach-truong; ibid., 119 mentions numerous glass beads found in tomb 1 at Luc-Truc; ibid., 123, pl. III.14.a, b on the glass egg from tomb 2 at Hoanh-chung;

ibid., 125 in tomb 1 at Lien-Huong greenish beads of glass and paste were found; ibid., 165 tomb 1A at Thung-Thon yielded numerous glass beads; ibid., 227 on glass beads found at Man-Thon. Glass beads have come from a megalithic tomb at Xuan Loc, see G. GASPARDANE, The Megalithic Tomb of Xuan-Loc (Cochin China), JGIS 4.1 (1937), 32; Iron Age burials at Ban Ang, Thao Kham, Ban Xot, Ban Soua and Song Meng contained iron and bronze artifacts and glass beads, see M. COLANI, Mégalithes du Haut-Laos, 2 (Paris 1935), 26—27, 31, 58—59, 79, 84—85, 100, 156—158 (chemical analysis).

[1652] For the settlement of large numbers of Chinese in Annam in the Han and Chin periods see H. MASPERO, Études d'Histoire d'Annam, BEFEO 18 (1918), 8—9, 17—28; L. AUROUSSEAU, La première conquête chinoise des pays annamites, BEFEO 22 (1922), 137—264; H. BIELENSTEIN, BMFEA 19 (1947), 141—142. For the history of this region in the Later Han period see H. BIELENSTEIN, Restoration 3, 63—82.

[1653] At Lien-Huong glass beads were found together with *wu-shu* coins and with coins of Wang Mang at Thung-Thon, see O. R. T. JANSE, Archaeological Researches in Indo-China, 2.125, 170.
For a glass kiln, possibly of Han date, found at Sham Wan, Lamma near Hong Kong, see W. SCHOFIELD, Report on Ancient Beads Found near Hong Kong, Proceedings of the Third Congress of Prehistorians of the Far East (Singapore 1940), 308—309.

[1654] For beads from various Malayan sites see above notes 1099 and 1101.

[1655] A. N. J. TH. VAN DER HOOP, Steenkistgraven en Goenoeng Kidoel, TITLV 75 (1935), 83—100.

[1656] Glass beads from South Sumatra cited as evidence of early (Egyptian) trade by A. N. J. TH. VAN DER HOOP, Prehistoric Glass Beads in the Malay Archipelago, Proceedings of the Third Congress of Prehistorians of the Far East (Singapore 1940), 319.

[1657] The stratigraphy of the Niah cave excavations has furnished a date, confirmed by radiocarbon analysis, for the introduction of iron and glass beads at this well stratified site. The stratigraphy and radiocarbon date point to a period contemporary with the arrival of T'ang ceramics on the island; see T. HARRISSON, The Caves of Niah: A History of Prehistory, SMJ 8 (1958), 562; IDEM, Recent Archaeological Discoveries in Malaysia, 1964: Borneo, JMBRAS 38.1 (1965), 246—247. In the sites of the Sarawak Delta complex thousands of monochrome beads have been found at the iron working sites of Sungai Jaong, Sungai Buah and Bongkissam as well as other sites such as Tanjong Kubur and Tanjong Tegok, invariably with ceramics and stoneware dated T'ang through Sung. Most beads are found in the upper strata of these sites. See B. HARRISSON, Recent Archaeological Discoveries, 1962—1963, JMBRAS 37.2 (1964), 196—197; T. HARRISSON and S. J. O. CONNOR, The Prehistoric Industry in the Sarawak River Delta: Evidence by Association, SMJ 16 (1968), 32—35; T. HARRISSON, Tanjong Tegokin, Prehistoric 'Cemetery' on the South China Sea, SMJ 16 (1968), 55—63; IDEM, The Prehistory of Borneo, AP 13 (1970), 22—24. Also for beads in a similar context at Santubong off the coast of Sarawak, see H. H. EVERETT and J. HEWITT, JSBRAS 52 (1909), 7—9; T. HARRISSON, Kelabit, Land Dayak and Related Glass Beads at Sarawak, SMJ n.s. 5.2 (1950), 204—205. For an analysis of glass samples from these sites see T. HARRISSON, New Analyses of Excavated Prehistoric Glass from Borneo, AP 11 (1968), 125—133. Also 775 monochrome glass beads with the same ceramic associations at Gedong in the Simunjan District of Sarawak, see R. NYANDOH and L. CHIN, A Progress Report on Archaeological Work at Gedong (1967—1969), SMJ (1969), 86—88.

[1658] See the general conclusion of W. G. SOLHEIM II, AP 7 (1963), 257; cf. CHEN-CHI-LU. Old Glass Beads Possessed by the Paiwan Group of Taiwan, in: W. G. SOLHEIM II (ed.), Archaeology at the Eleventh Pacific Science Congress, Tokyo, 1966 (Honolulu 1967), 35—37 who argues on the basis of chemical analysis that the ancient beads on Formosa were brought by immigrants from Southeast Asia rather than from China.

[1659] Monochrome glass beads have been excavated at the iron age urn burials at Samasama, see W. G. SOLHEIM II, Jar burial in the Babuyan and Batanes Islands and in the Central Philippines, and its Relationship to Jar Burial Elsewhere in the Far East PJS 89 (1960), 139.

[1660] See above n. 1103.

[1661] It is generally assumed that most of the beads from the Sarawak Delta sites are "Middle Eastern", so T. HARRISSON and S. J. O'CONNOR, SMJ 16 (1968), 33—34; T. HARRISSON, Monochrome Glass Beads from Malaysia and Elsewhere, Man 64 (March/April, 1964), art. no. 50, 40; cf. the results from chemical analysis of Borneo beads by T. HARRISSON, New Analysis of Excavated Prehistoric Glass from Borneo, AP 11 (1968), 125—133 who draws no conclusions. The glass from Kakhao Island, Takuapa and Pengkalan Bujang, Kedah is assigned to the Middle East on the basis of chemical analysis, see A. LAMB, The Bases of Glass Vessels from Kedah and Takuapa compared, FMJ n. s. 6 (1961), 56—63; IDEM, Some Glass Beads from Kakhao Island, Takuapa, South Thailand, FMJ n. s. 6 (1961), 48—55; IDEM, A Note on Glass Fragments from Pengkalan Bujang, Malaya, JGS 7 (1965), 35—40; IDEM, Research at Pengkalan Bujang. A Preliminary Report, FMJ n. s. 6 (1961), 26—29; cf. A. LAMB, JMBRAS 37.1 (1964), 91 for high Pb. O. content of beads from Kuala Selinsing, Takuapa and Pengkalan Bujang. So also the analysis of monochrome beads from the Kelabit Uplands of Borneo, see B. HARRISSON, JMBRAS 37.2 (1964), 200; and glass from Santubong, Sarawak, see T. HARRISSON, Translucent Glass Rings from Borneo, AP 6.1/2 (1962), 236—238.
For the discovery of a glass kiln from this period at the important port of Siraf on the Persian Gulf, see D. WHITEHOUSE, Excavations at Siraf: First Interim Report, Iran 6 (1968), 12, 18—19.

[1662] This is indicated by the early traces of Indian influence found at Chansen, see B. BRONSON and G. F. DALES, AP 15 (1972), 15—46.

[1663] For Indian imports at Oc-eo see above n. 1650. At Kuala Selinsing a carnelian seal with Pallava characters was found in layer C. Layers A, B and C contained most of the glass found at the site, see I. H. N. EVANS, JFMSM 15 (1932), 86—99.

[1664] In general see G. COEDÈS, The Indianized States of Southeast Asia, 19—20; P. WHEATLEY, in: Malayan and Indonesian Studies, 41 43.

[1665] The archaeologically derived dates of many of the Malayan sites are in dispute. H. G. Q. WALES, JMBRAS 18.1 (1940), 67—74 outlines four waves of settlement: first to third centuries, c. A.D. 300—550, c. 550—750 and c. 750—950. WALES himself admitted that the only evidence for the first phase are finds of "Roman beads" at sites like Kota Tinggi. It has also been suggested that many of the earliest sites in Central Kedah were in fact not settled by Indian colonists but rather by Indianized Indonesians, see A. LAMB, FMJ n. s. 6 (1961), 80—81.

[1666] Most of our evidence here comes from Oc-eo; see L. MALLERET, L'archéologie du Delta du Mékong, 1.240—251 for evidence of Indian burial customs at the site in the fourth to sixth centuries.

[1667] On Celebes the earliest Indian artifact is a bronze Buddha of Amarāvatī style excavated at Sempaga, see F. D. K. BOSCH, Summary of Archaeological Work in Netherlands India in 1933, ABIA 8 (1933), 35; IDEM, Het bronzen Buddha-beeld van Celebes' Westkust, TITLV 73 (1933), 495—512. For the earliest Sanskrit inscriptions from Java, see J. P. VOGEL, The Earliest Sanskrit Inscriptions of Java, in: Publicaties van den Oudheidkundigen dienst in Nederlandsch-Indië, 1 (Batavia 1925), 15—35.

[1668] Most important are a series of seven pillars from the region of Koetei bearing Sanskrit inscriptions mentioning a king Mūlavarman, see the inscriptions published by J. P. VOGEL, The Yūpa Inscriptions of King Mūlavarman from Koetei (East Borneo), BKI 74 (1918), 167—232; B. C. CHHABRA, Three More Yūpa Inscriptions of King Mulavarman, from Kotei (E. Borneo), JGIS 12 (1945), 14—17. Cf. G. Coedès, The Indianized States of Southeast Asia, 52 noting that the inscriptions cannot be earlier than c. A.D. 400. Further evidence for an Indian presence on Borneo comes from excavations at Bukit Maras and Tanjong Kubur, where nothing earlier than the T'ang period has been found, see T. Harrisson, Indian Pioneers in Borneo: c. 500 A.D. on . . ., SMJ 6 (1955), 511—517; See also the Tantric shrine found at Bongkissam of somewhat later date, T. Harrisson and S. J. O'Connor, The 'Tantric Shrine' excavated at Santubong, SMJ 15 (1967), 201—220.

[1669] G. Coedès, The Indianized States of Southeast Asia, 32—35.

[1670] So S. Levi, K'ouen-louen et Dvīpântara, BKI 88 (1931), 621—627 and R. Braddell, MJTG 9 (1956), 16—17 who note the frequent association of gold in Indian literature with toponyms which are thought to refer to Southeast Asia; cf. G. Coedès, The Indianized States of Southeast Asia, 20 who produces an elaborate hypothesis about the need to find new sources of gold because of the cut-off of the gold route from Siberia followed by Vespasian's success in halting the export of Roman gold to India; both theories, as noted above, rest on false premises.

Numerous 'ancient' gold workings are reported to exist along the upper reaches of the Patani, Sai and Pahang rivers, see A. Rentse, A Historical Note on the Northeastern Malay States, JMBRAS 20.1 (1947), 31—33. Mesolithic and Bronze Age remains have been found at a number of such gold workings in Kelantan: at Pulai in a gold mine, at Kuala Pergau near old gold workings, at Sungai Pergau close to old gold workings, ibid., 37—38. See also quadrangular adzes found in a gold mine at Padang Tengku, M. W. F. Tweedie, Prehistoric Objects from the Tui Gold Mines near Padang Tengku, Pahang, JMBRAS 20.1 (1947), 41—42. Cf. P. Wheatley, Sung Maritime Trade, JMBRAS 32 (1959), 133 where he points out that Sung texts do not refer to gold coming from Malaya.

In Indonesia few pre-Hindu gold objects are known. Small gold ornaments are reported from Tegurwangi, Kebumen, Kediri and Indramaju in Sumatra and Pasir Bentung in Java, see H. R. von Koenigswald, A Remarkable Megalith and Gold Ear-Ring from Java, SMJ 10 (1962), 372—375.

[1671] For the legend of Huen Tien/Kaundinya who came by sea (from India ?) to conquer the aborigines, marry their queen and found the kingdom of Funan, in Liang-shu 54.10a, see Su Chih Ching, Notes on Chin Pu Shih People in Hou Han Shu, JSSS 6.1 (1950), 4—5 (first century date); P. Wheatley, The Golden Khersonese, 47—48, 192—194. For parallel Indian legends see G. Coedès, La Légende de la Nāgī, BEFEO 11 (1911), 391—393.

[1672] The area of origin of the earliest Indian settlers is usually considered to be Southern India, see G. Coedès, The Indianized States of Southeast Asia, 32. Cf. also J. G. de Casparis, New Evidence on Cultural Relations between Java and Ceylon in Ancient Times, Artibus Asiae 24.3/4 (1961), 241—248 who argues on the basis of the excavations on the Ratubaka plateau in Central Java for the importance of Ceylon in the Indianization process.

For the common but unnecessary assumption that Roman merchants must have brought objects like those found at Oc-eo directly to Indochina see F. Altheim, Der Hellenismus in Mittelasien, Saeculum 1 (1950), 282: the Oc-eo finds indicate „*enge Verbindung mit dem Imperium Romanum*"; so also B. E. Colless, The Traders of the Pearl, IV, Abr Nahrain 13 (1972/73), 118; cf. R. Braddell, Arikamedu and Oc-eo, JMBRAS 24.3 (1951), 154—157.

[1673] See for example the small bronze and stone Amarāvatī and Gupta Buddhas from Bujang River, Kedah, Wieng Sra, Thailand and Ankor Borei, Cambodia cited as evidence by H. G. Q. Wales, Recent Malayan Excavations and some Wider Implications, JRAS (1946), 142—144, pl. XV. See also the Buddhas from Java and Celebes cited above, again they are the earliest Indian material found in these areas. The remains of a *stupa* at Guak Kepah, Province Wellesley were dated to the fifth century by Wales but T'ang stoneware was found by the foundations of the structure, see D. C. and H. G. Q. Wales, Further Work on Indian Sites in Malaya, JMBRAS 20.1 (1947), 3—6; cf. also the late dating of

Kedah site 16A which yielded a Buddha stylistically dated to the fifth century, ibid., 7—8, pls. I—II. So also the Vishnu figure from Takuapa which has been described by H. G. Q. Wales, A Newly Explored Route of Ancient Indian Cultural Expansion, IAL 9 (1935), 26 as showing strong Gupta influence, and by P. Dupont, Variétés archéologiques. Visnu mitrés de l'Indochine occidentale, BEFEO 41 (1941), 238—244 as being in the Pallava style. The earliest relatively securely dated remains from the site are T'ang ceramics of the seventh century or later, see A. Lamb, FMJ n.s. 6 (1961), 75; cf. J. J. Boeles, A Note on Tamil Relations with South Thailand and the Identification of Ptolemy's Tacola, JSS 54.2 (1966), 222—226 who favours the identity of the site with Ptolemy's Tacola. No conclusive argument can thus be based on the inscribed "Pallava seal" bearing the name Vishnuvarman found at Kuala Selinsing, see report of excavation in I. H. N. Evans, JFMSM 15 (1932), 86—99; cf. A. Lamb, FMJ n.s. 6 (1961), 82 who favours a date later than the eighth century.

[1674] The oldest inscription found in Indochina is a religious verse text from the village of Vo-canh, Nha-trang. For a description of the stele and the metre of the text see C. Jacques, Notes sur la stèle de Vo-cạnh, BEFEO 55 (1969), 117—123. For excavations at the site where the stone was found see H. Parmentier, Notes d'archéologie indochinoise, I. Relevé des points čams découverts en Annam depuis la publication de l'Inventaire, BEFEO 23 (1923), 269. The structural remains yield no clue as to the date of the text. The text was published by L. Finot, Notes d'épigraphie, XIV. Les inscriptions du Musée de Hanoi, BEFEO 15.2 (1925), 3—5, pl. I.1. There are no clues as to the date of the text except the letter forms; see G. H. Luce, Countries Neighbouring Burma, JBRS 14.2 (1924), 139—140: third century; L. Finot, Review of G. Maspero, Le royaume de Champa (Paris 1928), BEFEO 28 (1928), 286—287: second or third century; R. C. Majumdar, La paléographie des inscriptions du Champa, BEFEO 32 (1932), 136—139: fourth or early fifth century; cf. the criticism of K. A. Nilakanta Sastri, L'origine de l'alphabet du Champa, BEFEO 35 (1935), 235—241; R. Braddell, JMBRAS 17.1 (1939), 166: suggests second to third century; D. C. Sircar, Date of the Earliest Sanskrit Inscription of Campā, JGIS 6 (1939), 53—55 and Idem, Date of the Earliest Sanskrit Inscription of Campā, IHQ 17 (1941), 107—110: argues for a date after the fourth century since Sanskrit was little used officially before that time; cf. G. Coedès, The Date of the Sanskrit Inscription of Vo-canh (South Annam), IHQ 16 (1940), 484—487 with a date of c. A.D. 230, identifying the ruler in the inscription with a king of Funan. This conclusion was rejected by E. Gaspardone, La plus ancienne inscription d'Indochine, JA 241 (1953), 477—485 who suggests a fifth century date; cf. K. Bhattacharya, Précisions sur la paléographie de l'inscription dite de Vô-caṇh, Artibus Asiae 24 (1961), 219—224 who on the basis of a comparison with the inscriptions from Nagarjunakonda suggests a date late in the third century.

[1675] The early date for the well explored sites in the Merbok Estuary region of Central Kedah is also based on three Buddhist inscriptions: one each from Bukit Choras, Bukit Meriam and from near Kampong Sireh on the Muda River. All three texts were palaeographically dated to the fourth or fifth centuries, see texts published by H. G. Q. Wales, JMBRAS 18.1 (1940), 5—7, 41—42. Later dates for the estuary sites are proposed by A. Lamb, FMJ n.s. 6 (1961), 78—81. The earliest securely dated inscription from Malaya and Cambodia comes from the year A.D. 598 and is dated by the Saka Era, and the earliest dated inscription from Java is from A.D. 732, see L. C. Damais, Les écritures d'origine indienne en Indonésie et dans le Sud-Est Asiatique continental, BSEI n.s. 30.4 (1955), 370—371, 379—380.

[1676] See above p. 656; cf. P. Wheatley, The Golden Khersonese, 194 who notes that most of our evidence to date shows only the results of the Indianization process, not its origins.

[1677] See above n. 1650 for the evidence from Oc-eo.

[1678] The excavators of Chansen suggested a date of c. A.D. 1—250 for the earliest period of Indianization at the site, see B. Bronson and G. F. Dales, AP 15 (1972), 25. This would produce a date earlier than that generally suggested for Oc-eo. The evidence for this is pottery in phase II which differs from that found in the previous level but is similar to material from India and a single ivory comb with Buddhist emblems in the Amarāvatī style. Radiocarbon samples taken from other materials in the same level yield dates of A. D. 3 ± 42 and A.D. 256 ± 87, ibid., 28—31, fig. 7.

[1679] For many sites this was already the judgement of H. G. Q. WALES, JMBRAS 18.1 (1940), 18—21 for example a temple at Bukit Batu Pahat dated to the seventh or eighth centuries; 21—22, Kedah Peak, remains of Hindu shrines attributed to the eighth century.

[1680] See the works by A. LAMB cited above, nn. 1102—1103.

[1681] Two 'Indian' sites (as distinct from those which are primarily Chinese) have been excavated in Sarawak at Bukit Maras and Tanjong Kubur. Nothing from either site indicates that it was inhabited before the period of importation of T'ang ware, see T. HARRISSON, SMJ 6 (1955), 511—515. For the 'Gupta' Buddha excavated at Bukit Maras see A. G. GRISWOLD, SMJ 10 (1962), 363—371; and S. J. O'CONNOR, SMJ 11 (1964), 565—566. The so-called Tantric Shrine at Bongkissam, which shows both Buddhist and Hindu influence, can scarcely be dated earlier than the eleventh century, see T. HARRISSON and S. J. O'CONNOR, The 'Tantric Shrine' excavated at Santubong, SMJ 15 (1967), 201—222.

[1682] See the sites discussed above, p. 654.

[1683] The earliest Chinese literary evidence for an Indian presence in Indochina is cited above, n. 1086.

[1684] For the evidence of Indianization at Chansen, see above n. 1678; for Oc-eo above n. 1650.

[1685] It is only in the past decade and a half that extensive archaeological surveys have been made in many parts of Thailand outside the Mekong delta, see the preliminary report by W. G. SOLHEIM II, Recent Archaeological Discoveries in Thailand, in: Papers presented at the XI Pacific Scientific Congress, Tokyo 1966, 47—52.

[1686] See above n. 1087.

[1687] For the discovery of two Dongson drums at a burial at Kampong Sungai Lang, Selangor, see B. A. V. PEACOCK, Recent Archaeological Discoveries in Malaysia, 1964, JMBRAS 38.1 (1965), 248—253. The unusually early date for this excavation furnished by radiocarbon analysis, 2435 ± 95 B.C., is questioned by the excavators. Cf. now on the Dongson Bronze Age Culture NGUYEN PHUC LONG, Les nouvelles récherches archéologiques au Vietnam, ArtsAs spec. no. (1975), 57—90, esp. 84—85 who cites C-14 dates as early as the second millenium B.C. from Go Bong, Go Mun, Dong Dau and Dong-son.

[1688] Ancient sites in Malaya, Thailand and Burma rarely yield bronze objects since the region is virtually without copper ores. The full impact of the Iron Age was not felt until the end of the first millennium of our era. The arrival of the Iron Age people who built the slab-graves of Southern Perak is characterized in Malaya and Java by Chinese pottery finds of the ninth and tenth centuries, see W. LINEHAN, Traces of a Bronze Age Culture associated with Iron Age Implements in the Regions of Klang and the Tembeling Malaya, JMBRAS 24.3 (1951), 1—60; P. J. LOEWENSTEIN, JMBRAS 29.2 (1956), 5—42, 48—65. The stratified excavations at a Malayan Neolithic site at Nyong, Pahang reveal a similar picture, see I. H. N. EVANS, Excavations at Nyong, Tembeling River, Pahang, JFMSM 15 (1931), 51—62. At the stratified excavations in the Niah caves in Borneo there is little trace of a Bronze Age culture and Borneo seems to move swiftly from the Stone Age into the Iron Age at the arrival of T'ang ceramics, T. HARRISSON, New Archaeological and Ethnological Results: from Niah Caves, Sarawak, Man 59 (1959), art. no. 1, 6—7. Recent excavations in Central Thailand have, however, pushed back the date for the advent of bronze as well as iron in that region. At Tam Ongbah and Ban Kao burials have yielded about 70 implements and fragments and in the case of the former an associated radiocarbon date of 230 ± 100 B.C., P. SØRENSEN, Archaeological Excavations in Thailand, 2 Ban Kao (Copenhagen 1967), 34—35, 45, 85—88 and Idem, Prehistoric Iron Implements from Thailand, AP 16.2 (1973), 128—173.

[1689] For the maritime empire of Funan see above n. 1642.

[1690] Cf. G. Coedès, The Indianized States of Southeast Asia, 33 who notes that Indianization only effected the aristocratic levels of society.

[1691] For the results of the excavations at Non Nok Tha see W. G. Solheim II, Molds for Bronze Casting Found in Northeastern Thailand, JSS 55 (1967), 87—90; Idem, Southeast Asia and the West, Science 157 (1967), 896—902; Idem, Early Bronze in Northeastern Thailand, CA 9.1 (1968), 59—62. For the importance of the site in the understanding of Dongson culture see W. G. Solheim II, AP 13 (1970), 56 who notes that some of the characteristics of Dongson are present here as early as 2000 B.C. Cf. W. G. Solheim II, The 'New Look' of Southeast Asian Prehistory, JSS 60.1 (1972), 8—9; cf. B. A. V. Peacock, Early Cultural Development in South-East Asia, with Special Reference to the Malay Peninsula, APAO 6.2 (1971), 115. These early dates are to some extent confirmed by excavations in Vietnam: at Go Chien-vay the late Bronze Age produced a radiocarbon date of 400 B.C. ± 100, at Vinh-quang the early Bronze Age produced a date of 1095 B.C. ± 120, at Dong Dau 1377 B.C. and at Go Bong c. 2000 B.C., see Nguyen Phuc Long, ArtsAs spec. no. (1975), 55.

[1692] But there is no evidence for an indigenous form of writing developing anywhere in this area; even the Indian inscriptions found to date are all later than the period of the Roman Empire; coinage either imported or indigenous does not come into use in the area until a much later period. There is also as yet little evidence of urbanization or political centralization, cf. W. G. Solheim II, JSS 60.1 (1972), 9.

[1693] See above n. 1641.

[1694] For references to embassies from Ta-ch' in see above n. 849. The voyage of an otherwise unknown Alexander to Kattigara is recorded by Marinus of Tyre, Ptolemy Geog. I.14.1: Τοῦ δ' ἀπὸ τῆς Χρυσῆς Χερσονήσου ἐπὶ τὰ Καττίγαρα διάπλου τὸν σταδιασμὸν ὁ Μαρῖνος οὐκ ἐκτίθεται· φησὶ δὲ 'Αλέξανδρον ἀναγεγραφέναι τὴν γῆν ἐντεῦθεν ἀντίαν εἶναι τῇ μεσημβρίᾳ, καὶ τοὺς πλέοντας παρ' αὐτὴν ἐν ἡμέραις εἴκοσι καταλαμβάνειν πόλιν Ζάβας, ἀπὸ δὲ τῶν Ζαβῶν πρὸς νότον διαπλεύσαντας καὶ μᾶλλον εἰς τὰ εὐώνυμα ἡμέρας τινὰς ἐκδέχεσθαι τὰ Καττίγαρα.

[1695] For those who hold this view see above n. 1639.

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[1696] See for example, M. I. Finley, Early Greece, The Bronze and Archaic Ages (New York 1970), 53—54; J. Boardman, The Greeks Overseas (Harmondsworth 1964), 31—34.

[1697] This is also true of small inscribed objects which furnish the primary clue for the early dating of some sites in Southeast Asia, see the comments of A. Lamb, FMJ n. s. 5 (1960), 104, 106.

[1698] For Greek influence on Achaemenid art and architecture see H. Frankfort, Achaemenian Sculpture, AJA 50.1 (1946), 6—14; cf. G. M. A. Richter, Greeks in Persia, AJA 50.1 (1946), 15—30; A. W. Lawrence, The Dissemination of a Greek Drapery Pattern, in: Robinson Studies, 1.532—536; R. D. Barnett, Persepolis, Iraq 19 (1957), 74—77 who sees Urartian, Assyrian and Elamite influences as considerably more important than Greek at Pasargadae; G. de Francovich, Problems of Achaemenid Architecture, E&W n.s. 16 (1966), 201—260; C. Nylander, Ionians in Pasargadae (Uppsala 1970), passim, who presents the most extensive treatment of the evidence and argues in favour of the presence of Greek stonemasons.

[1699] Hence the attribution of the so-called Graeco-Persian gems and seals to Greek artists, see G. M. A. Richter, The 'Achaemenian' or 'Graeco-Persian' Gems, Hesperia Suppl. 8 (1949), 291—298; Idem, Greek Subjects on 'Graeco-Persian' Seal Stones, Archaeologia Orientalia in Memoriam Ernst Herzfeld, 189—194, pl. xxx. Three Ionian seals have been found in the Bhir Mound at Taxila — one of the two in a fourth century hoard found in 1945 was unfinished, see G. M. Young, A New Hoard from Taxila (Bhir Mound), AI 1 (1946), 33—34, pl. X.B.1—3.

[1700] Cf. G. M. Young, AI 1 (1946), 27, 33—34, pl. X.B who argues from the close resemblance of the themes on all three stones and the unfinished surface of one of them that a Greek craftsman was at work in fourth century B.C. Taxila.

[1701] See above, p. 614.

[1702] Achaemenid activity of this sort is well documented: the people from the Greek city of Barce in Cyrene were carried off and settled in Bactria by the Persians (Herodotus IV.204); the Branchidae were said to have voluntarily left Miletus with Xerxes who settled them in Sogdiana, the town was reportedly destroyed by Alexander (Strabo XI.11.4; Curtius VII.5.28—35); the Persians removed the Paeonians from their homeland in Thrace to Phrygia (Herodotus V.12—17, 23, 98). On the first two examples see now B. A. Litvinskii, Drevnii sredneaziatskii gorod, in: Drevnii Vostok, goroda i torgovlia (III—I tys do n. e.) (Erevan 1973), 109—110.

[1703] See R. Ghirshman, Les fouilles de Chapour (Iran), RAA 12 (1938), 13, 18—19 who in discussing the Graeco-Roman elements in the palace suggests that Roman prisoners were involved in its construction; cf. also R. Ghirshman, RAA 10 (1936), 128; Idem, Die französische archäologische Forschung in Iran und Afghanistan (1940—1951), Saeculum 4 (1953), 117—118; so also Salles in his discussion of the mosaics from the site, G. Salles, Nouveaux documents sur les fouilles de Châpour, RAA 13 (1939/42), 97—99, pls. xx–xxii.

See also the Corinthian capitals from a building at Istakhr. Herzfeld dated the columns to the early Hellenistic period, E. Herzfeld, Iran in the Ancient East (London/ New York 1941), 278—280, fig. 375, pl. xc; these columns have now been redated to the Sasanian period (third to fourth centuries), cf. P. Bernard, Trois notes d'archéologie iranienne, JA 262 (1974), 284—288. Similar Corinthian capitals showing strong western influence come from early Sasanian structures at Bishapur and Nurabad, D. Huff, Nurabad, AMI N.F. 8 (1975), 173—177. Such western influence as affected the style of Sasanian Corinthian columns may also have reached Persia from the east: Bactria and Central Asia where Corinthian columns and their derivatives from the Graeco-Bactrian and Kuṣāṇa periods have been found at Saksanokhur, Munchaku Tepe, Baglan, Hatyn-Rabat, Termez and Shahrinau, see B. Ia. Staviskii, The Capitals of Ancient Bactria, E&W n.s. 23.3/4 (1973), 265—277. For further excavations at the site see E. F. Schmidt, The Treasury of Persepolis and other Discoveries in the Homeland of the Achaemenians (Chicago 1939), 89—90. — There has also been a recent find of seals near Siraf, one cut in 'Roman style'. They are to the best of my knowledge as yet unpublished, see D. Whitehouse, Antiquity 45 (1971), 264. For other Sasanian towns with colonies of Roman prisoners see J. H. Kramers, The Military Colonization of the Caucasus and Armenia under the Sassanids, BSOS 8.2/3 (1936), 618.

[1704] So G. Salles, Nouveaux documents sur les fouilles de Châpour: IV^{me} et V^{me} Campagnes, RAA 13 (1939/42), 97—99. The third campaign of Shapur I yielded the largest numbers of prisoners, cf. lines 34—36 of the Naqsh-i Rustam inscription: Καὶ ἀνθρώπους τοὺς ἀπὸ τοῦ ἔθνους 'Ρωμαίων ἀπὸ τῶν 'Αναριανων ἐν ἁρπαγῇ ἠγάγαμεν καὶ ἐν τῷ ἡμετέρῳ ἔθνει τῷ 'Αριανῶν ἐν Περσίδει καὶ ἐν Παρθίᾳ καὶ ἐν Οὐζηνῇ καὶ ἐν τῇ Ασσυρίᾳ καὶ ἐν τοῖς ἑτέροις ἔθνεσιν κατ' ἐπαρχῖον, ὅπου ἡμῶν τε καὶ τοῦ πατρὸς ἡμῶν καὶ πάππων καὶ προγόνων ἡμῶν κτίσματα ἦν, ἐκεῖ αὐτοὺς ἀπεκαθίσαμεν . . .; cf. also lines 25—26 where Shapur notes that he deported all of those captured with Valerian to Persis:

πάντας τούτους ἐν χερσὶν ἐκρατήσαμεν καὶ εἰς τὴν Περσίδα αὐτοὺς ἐξηγάγομεν. A. Maricq, Syria 35 (1958), 313, 315 (= Idem, Classica et Orientalia [Paris 1965], 55, 57).

1705 Antioch was captured twice by Shapur. The precise chronology of the campaigns of Shapur I has long been controversial. Good literary sources are lacking for Syrian events at this time; cf. A. T. Olmstead, The Mid-Third Century of the Christian Era, CPh 37 (1942), 241—262, 398—420 who relies heavily on 'Oracula Sibyllina XIII' in his reconstruction. First-hand knowledge of the campaigns comes from the great Naqsh-i Rustam inscription of Shapur I (SKZ). For the Greek text with commentary see E. Honigmann and A. Maricq, Recherches sur les Res Gestae Divi Saporis, MémARB 47.4 (Bruxelles 1952), 11—19, 111—122, 131—164 and A. Maricq, Classica et Orientalia 5. Res Gestae Divi Saporis, Syria 35 (1958), 295—360 (= Idem, Classica et Orientalia, 37—102) who also reprints the Middle Persian and Parthian texts. The second campaign of Shapur in the inscription encompasses the first Persian capture of Antioch and the sacking of the town. Maricq tentatively suggested a date of A.D. 256 for this. Accepted by G. Downey, A History of Antioch, 260—261.

Before the publication of this valuable text Alföldi suggested on the basis of the datable issues of the Antioch mint that the city was captured three times: in A.D. 253, 258/9 and 260, see A. Alföldi, Die Hauptereignisse der Jahre 253—261 n. Chr. im Orient im Spiegel der Münzprägung, Berytus 4.1 (1937), 53—65 (based primarily on the hoard from Kefr Nebudi), cf. A. T. Olmstead, CPh 37 (1942), 419. Rostovtzeff in a detailed analysis of the campaigns suggested two captures: in A.D. 253 and 260, M. Rostovtzeff, Berytus 8.1 (1943), 17—60. Cf. further examinations of the Greek text of SKZ in the light of the literary evidence in G. Pugliese Caratelli, Res Gestae Divi Saporis, PP 2 (1974), 218—234. Carson who published the Hama hoard on which much of Alföldi's work depended concluded that Antioch was captured twice, in A.D. 253 and 260, R. A. G. Carson, The Hamâ Hoard and the Eastern Mints of Valerian and Gallienus, Berytus 17 (1967—68), 132—135; cf. J. P. Callu, La politique monétaire des empereurs romains de 238 à 311, 210—212 (who favours A.D. 256 for the first capture) and P. Bastien and H. Huvelin, Trésor d'antoniniani en Syrie, RN 6 ser. 11 (1969), 234—235 (also favour 256 and attribute Valerian's *Victoria Parthica* issues to his recapture of the city); cf. J.-B. Giard, Le trésor d'Étaples, RN 6 ser. 7 (1966), 214, n. 1 who suggests that possibly coins in the style of the Antioch mint could have been struck after the capture of the city by a mint travelling with the army; cf. P. Bastien, La Victoria Parthica de Valérien dans les émissions monétaires d'Antioche, SM 25 (1975), 16—17. The problem can at present not be solved on the basis of the coins but it appears preferable to link the first capture of Antioch to the same campaign as destroyed Dura in A.D. 256 (below n. 1734). Two hoards of Sasanian coins, one from eastern Turkey the other from Cilicia, appear to be connected with these Persian campaigns, see I. Pfeiler, Drei westliche Münzstätten unter Sapur I. anhand zweier Funde, SM 23 (1973), 144—145. See recently on Shapur's capture of Valerian the analysis of the sources by B. H. Stolte, The Roman Emperor Valerian and Sapor I, King of Persia, RSA 1 (1971), 157—162. For the stone reliefs at Naqsh-i Rustam, Darab and Bishapur depicting the capture of Valerian see E. Herzfeld, Iran in the Ancient East, 314—316, pls. cxiii—cxiv (Naqsh-i Rustam); M. A. Stein, An Archaeological Tour of Persis, Iraq 3.2 (1936), pl. xvii (Darab); P. Bernard, JA 262 (1974), 288—296; cf. also J. Gagé, Comment Sapor a-t-il 'triomphé' de Valérien?, Syria 42 (1965), 343—388; R. Ghirshman, Le triomphe de Châpour I, MIO 11.1 (1965), 3—6; H. v. Gall, Die Mosaiken von Bishapur und ihre Beziehung zu den Triumphreliefs des Shapur I., AMI N.F. 4 (1971), 199—205.

1706 For Parthia see J. Neusner, A History of the Jews in Babylonia, 1.69—70, n. 2. For Southern Arabia see above n. 834 and S. Krauss, Talmudische Nachrichten über Arabien, ZDMG 70 (1916), 330—331. Although there has been a good deal of speculation about Jewish settlements in Han China the earliest reliable evidence for such settlers comes from a much later period, see D. D. Leslie, The Survival of the Chinese Jews, TP Monograph (Leiden 1972), 3—5, 163—164.

[1707] See the literature cited above on the spread of Christianity in the East, n. 1599.

[1708] Our major primary source for these early Sasanian persecutions is the group of four Middle Persian inscriptions which praises and recounts the deeds and titles of Kartir, the powerful head of the Zoroastrian church who in various capacities served four kings: Shapur I, Hormizd I, Varahran I and Varahran II. The persecution and expulsion of Jews, Christians (two sects), Brahmans, Manichaeans and Buddhists (for the suggestion that *šaman* in line 9 of KKZ refers to Buddhist monks see M. L. CHAUMONT, JA 248 [1960], 358, 377 n. 72, cf. the reference to the cave monastery at Kara Tepe as "evil buildings" in Bactrian inscription no. 27 from the site, J. HARMATTA, in: Buddhiskie peshchery Kara-Tepe v Starom Termeze, 101—102) are mentioned in lines 9—10 of KKZ and line 14 of KSM and probably reached their greatest intensity in the reigns of Varahran I (A.D. 273—276) and Varahran II (276—293). Before the discovery of the Kartir inscription on the Ka'ba of Zoroaster in 1936 three more or less mutilated texts were known from Naqsh-i Rustam, Sar Mašhad and Naqsh-i Rajab. See for these the speculative remarks of E. HERZFELD, Paikuli I, 89—93 and IDEM, Archaeological History of Iran, 100—102. For the text of KKZ see first M. SPRENGLING, Kartir, Founder of Sasanian Zoroastrianism, AJSLL 57.2 (1940), 197—228 (with a commentary and a rather disjointed translation); cf. further IDEM, Pahlavi Notes, AJSLL 58.2 (1941), 171—175 (corrections of his earlier study), see finally IDEM, Third Century Iran, Sapor and Kartir, 37—60, cf. ibid., 63—69 for KNRb. SPRENGLING's texts and translations have however not proven definitive and a great deal of progress has subsequently been made on all four of the texts. For plates of KKZ see CIIran III.2 pls. LXXI—LXXIX and the text and commentary of M.-L. CHAUMONT, L'inscription de Kartir à la 'Ka'bah de Zoroastre' (Texte, traduction, commentaire), JA 248 (1960), 339—380 and also the comments of P. GIGNOUX, Deux mots pehlevis de l'inscription de Kartir à la Ka'aba de Zoroastre, JA 255 (1967), 337—339; W. HINZ, Die Inschrift des Hohenpriesters Karder am Turm von Naqsh-e Rostam, AMI N.F. 3 (1970), 255—265. For the Kartir inscription at Sar Mašhad see the plates published in CIIran III.2, pls. I—XXIV; cf. on this text R. FRYE, Report on a Trip to Iran in the Summer of 1948, Oriens 2.2 (1949), 208—211; IDEM, The Middle Persian Inscription at Sar Mashhad, HTR 42.1 (1949), 69—70 and IDEM, Remarks on the Paikuli and Sar Mašhad Inscriptions, HJAS 20 (1957), 703—705; a full text and translation has been published by P. GIGNOUX, L'inscription de Kartir à Sar Mashad, JA 256 (1968), 387—418. For the Naqsh-i Rajab inscription see the plates in CIIran III.2 pl. LXXX—LXXXIV and the text and translation of R. FRYE, The Middle Persian Inscription of Kartir at Naqs-i Rajab, IIJ 8.3 (1965), 211—225. The Naqsh-i Rustam inscription of Kartir (KNR) has now been re-edited by C. J. BRUNNER, The Middle Persian Inscription of the Priest Kirdēr et Naqš-i Rustam, in: D. K. KOUYMJIAN (ed.), Studies in Honor of George C. Miles, 97—113. On the relationship of all of the texts to each other and a date of engraving of c. A.D. 290 see P. GIGNOUX, Études des variantes textuelles des inscriptions de Kirdir, Genèse et Datation, Le Muséon 86 (1973), 193—215. For the career of Kartir see R. N. FRYE, History and Sasanian Inscriptions, in: La Persia nel Medioevo (Rome 1971), 217—218 and W. HINZ, Mani und Kardér, in: ibid., 485—487, 493—498.

Actual evidence for Buddhist persecution by Zoroastrians comes from the excavations of the Buddhist monastery of Kara Tepe whose destruction HARMATTA connects with Kartir's activities, J. HARMATTA, in: Buddiiskie peshchery Kara-Tepe v Starom Termeze, 120—121; see in detail above n. 695. HARMATTA's date in the reign of Varahran I or II is preferable to the early third century date for the exodus of Buddhists from Central Asia to China given in SHIGEMATSU SHUNSHO, Bukkyo Tozen shoki no kyokai to sono Toryu no ichi daidoki, in: Shigematsu sensei koki kinen Kyushu daigaku Toyoshi ronso (Fukuoka 1957), 1—17 who assumes that the movement was set off by Ardashir's victory over the Kuṣāṇas which he places in A.D. 226, cf. RBS 3 (1957), no. 839.

In general, however, the third century was a period of relative toleration for Christians in Sasanian Persia and this lack of persecution combined with the deportation of large numbers of Christians from the eastern provinces of the Roman Empire into Persia resulted in the spread of Christianity through much of Iran, see M.-L. Chaumont, Les Sassanides et la christianisation de l'Empire iranien au IIIe siècle de notre ère, RHR 165 (1964), 165—202. A Sasanian Christian church has been found on Kharg, J. Bowman, AcIr 1 ser. 1 (1974), 217—220; for those at Hira and Ctesiphon see U. Monneret de Villard, BAIPAA 5.4 (1936), 180. Christian refugees from Persian persecutions are also known in the Roman Empire, e.g. Auxentius in the reign of Constantius, see T. D. Barnes, Phoenix 27.2 (1973), 141. A fifth century Pahlavi funeral inscription from Istanbul records the death there of a Sasanian Christian, see J. P. de Menasce, L'inscription funeraire pehlevie d'Istanbul, Iranica Antiqua 7 (1967), 59—71; M. N. Bogoliubov, Pekhleviiskaia nadpis' iz Konstantinopolia, PalSb 23 (1971), 92—99.

[1709] Statistics for the movement of Buddhist pilgrims from China to India are cited by Chia-Luen Lo, Chinese Sources for Indian History, IndAr 3 (1949), 83: 2 in the late third century, 5 in the fourth century, 61 in the fifth century, 14 in the sixth century, 56 in the seventh century and 31 in the eighth century.

[1710] This conclusion has been drawn about some of those belonging to Indian embassies visiting the Roman Empire, cf. above n. 1623.

[1711] See above n. 745.

[1712] For the limited conclusions which can be drawn from bead finds see above p. 654; for finds of Roman coins in *stupa* reliquaries see above pp. 630—631.

[1713] The statuette was found in a large private house off the Via dell'Abbondanza and is considered to be the handle of an ornate mirror, A. Maiuri, Statuetta eburnea di arte indiana a Pompei, Le Arti 1.2 (1939), 111—115; J. P. Vogel, Note on an Ivory Statuette from Pompei, ABIA 13 (1938), 1—5 who correct's Maiuri's identification of the figure as Lakshmi; see also A. Ippel, Statuetten aus Pompeji, AA (1939), 370—376.

[1714] Finds of silk are listed above p. 625 and cotton above p. 651. Another find may possibly be added here: at Capdenac the excavation of a Roman camp produced a few sherds of distinctive green-glazed Parthian pottery probably brought there by troops transferred from Syria, see A. Sors, Fouilles et découvertes à Capdanae-Uxellodunum, Archeologia 6 (1955), 68—74.

[1715] See H. Nissen, Jhb. d. Vereins v. Altertumsfreunden im Rheinlande, 95 (1894), 4—5 who has a list of such finds.

[1716] Now in the British Museum, see L. Ashton and B. Gray, Chinese Art (London 1935), p. 64 no. 14, pl. on p. 65; L. C. Goodrich, JAS 17 (1957), 5.

[1717] This bronze from the Hellstrom collection was found in a garden on the Esquiline near where the Via Cavour runs into the Via Giovanni Lanza, see B. Vessberg, Un bronze du style Houai découvert à Rome, BMFEA 9 (1937), 127—131, pls. I—II who suggests that the piece arrived in Antiquity and was part of an ancient Roman art collection.

[1718] This little ivory figurine is attributed to Central Asia and may date as late as the eighth century, see U. Monneret de Villard, Un avorio dell'Asia Centrale scoperto nei pressi di Roma, Asiatica 7 (1942), 3—5; M. Bussagli, E&W n.s. 1.1 (1950), 16.

[1719] Cf. M. Bussagli, E&W n. s. 1.1 (1950), 16—17 who states that it was imported in the early imperial period.

[1720] See for example: H. Kortenbeutel, Süd- u. Osthandel, 67—69, 72—74; E. Leider, Alexandreia, 51, 69—70; J. Schwartz, Annales (ESC) (1960), 32; A. Dihle, Umstrittene Daten, 19—20.

[1721] For Diocletian's adjustment of the frontier to Elephantine see Procopius, Pers. I.19. 27—33; but cf. B. G. Haycock, The Later Phases of Meroïtic Civilization, JEA 53 (1967), 115—116 n. 6. This event is variously dated to A.D. 296 or 297: J. Lesquier, L'armée romaine, 474—475; R. Rémondon, Problèmes militaires en Égypte et dans l'Empire à la fin du IV^{e} siècle, RH 213 (1955), 26. More recently 298 has been urged, see L. Castiglione, Diocletianus und die Blemmyes, ZÄS 96.2 (1970), 96. Questions have been raised about the thoroughness of the Roman abandonment of the Dodecaschoenos. For the use of the Roman forts at Shellal and Dakka (Pselkis) under Constantine see L. P. Kirwan, Prelude to Nubian Christianity, in: Mélanges offerts à Kazimierz Michalowski (Warsaw 1966), 122.

The destruction of Coptos and the new arrangements on the southern frontier are both parts of a nexus of problems which involves also the revolt of two shadowy figures, Achilleus and L. Domitius Domitianus. Initially it had been thought that, since our literary sources mention only the former and the papyri, ostraca and coins the latter, the men might be identical. It is now clear that this is incorrect (see below). The precise dating of these events has always been a problem. Eusebius Chronicle dates the revolt of Achilleus to A.D. 292/293 (cf. T. D. Barnes, Lactantius and Constantine, JRS 63 [1973], 35). The chronographers for this period, however, contain numerous errors and so frequently copy each other that they are of little assistance in following the sequence of events (see J. Schwartz, L'Égypte à la fin du IIIe s. p.C. et son historiographie, BFS 46 [1967], 294—303, cf. I. Ghali, Le calendrier Copte et l'ère des Martyrs, BIFAO 66 [1968], 115, 118) and the date of the revolt is also to a certain extent independent of the coinage (see J. Schwartz, CE 38 [1963], 154—155). The papyri have been used to date the revolt as early as 295/296 (so J. Lallemand, Lucius Domitius Domitianus, Aegyptus 33 [1953], 101—103). Most recently Barnes has argued that Coptos and Busiris were destroyed in 293/294 not by Diocletian but rather by Galerius, see T. D. Barnes, Imperial Campaigns, A.D. 285—311, Phoenix 30.2 (1976), 180—182. The papyri suggest several possible datings. P.Cair.Isid. 62, bearing a date of Thoth 8 in the year 2 of Lucius Domitius Domitianus (Sept. 5, 296 or 297; see A. C. Johnson, Lucius Domitius Domitianus Augustus, CPh 45.1 [1950], 13—21 and J. Schwartz, Autour du dossier de Paniskos [P.Mich. 214—221], Aegyptus 48 [1968], 114—115 for 296 and C. Vandersleyen, Chronologie des préfets d'Égypte de 284 à 395, Coll. Latomus 55 [Bruxelles 1962], 44—61 and T. C. Skeat, Papyri from Panopolis in the Chester Beatty Library [Dublin 1964], x—xv for 297) mentions a proposed notification about a pending suit to be sent to the *corrector* Aurelius Achilles (line 24): περὶ τούτου ἀναδιδάσκιν τὸ μέγεθος τοῦ διασημοτάτου ἐπανορθωτοῦ Αὐρηλίου 'Αχιλλέως, . . . The letters of Paniskos take us one step further (see on these J. G. Winter, The Family Letters of Paniskos, JEA 13 [1927], 59—74). Paniskos writes three letters from Coptos (P.Mich. III.214, 216 and 217) to his wife asking her to come from the Fayum to join him and to bring his weapons and armour. In P. Mich. 220 Paniskos writes to his wife and mentions contemporary events (lines 17—24): ὁ δὲ 'Ερμείας ὁ ἀδελφὸς σού ἐστιν ἐν τῷ πέρα μετὰ τοῦ ἐπάρχου. πολλάκις φωνὴν αὐ[τῷ] ἐβά[λλο]μεν ἵνα ἔλ[θ]η πρὸς τὸν ἐπανορθωτὴν 'Αχιλλέα καὶ οὐκ ἦλθεν. The date is Thoth 12 of the same year as P.Cair.Isid. 62. What emerges is that Coptos was a centre for the rebellion against Diocletian and that Domitius had placed Achilleus in charge of this district. Within months of this letter the city must have fallen to Diocletian's troops. (For evidence of destruction from the excavations see A. J. Reinach, Bull.Soc. fr. de Fouilles Archéologiques 3 [1912], 59). P. Panop. Beatty 1 in listing preparations being made for the arrival of Diocletian in Panopolis in 298 refers to the presence of troops in the area in the previous year, possibly part of an expeditionary force into the Thebaid (line 375). P. Panop. Beatty 2.162 refers to mounted archers ἐν κάστροις τῆς Ποτέκοπτος, for which Skeat suggests the meaning ἡ ποτὲ Κόπτος. Diocletian thus was in Egypt in 297/298 (see now A. K. Bowman, JRS 66 [1976], 158—159) and Coptos fell in 297; it was most likely at this time that Diocletian also arranged affairs on the southern frontier. If one attributes the destruction of Coptos to A.D. 297 (or less likely 296) and explains it as a consequence of the city's support for Domitius Domitianus there still remains P. Oxy. I.43r (Feb. 295). Since this document mentions certain soldiers as πρωδήκτωρ τοῦ Σεβάστου (ii.7) or κόμιτες τοῦ κυρίου (ii.27—28), it seems to imply the presence of an emperor. Since Diocletian was in Nicomedia in March 295 and in Damascus in May of the same year, it cannot be he. Barnes (above) has suggested that the emperor in question is Galerius and that the papyrus refers to the latter part of a campaign which destroyed Coptos in 293/294. But the presence of these troops need not necessarily imply the presence of an emperor and the apparently normal flow of life at Coptos revealed by the Paniskos letters does not indicate that the city had been destroyed two years earlier. Alternatively P. Oxy. I.43r may be connected with a Blemmye raid in the south, see below n. 1722. The city is, however, so strategically located that it is doubtful if it remained in ruins for long, certainly in the Mamluk period it had a mint and was called the "port of the merchants of Aden", see W. J. Fischel, The Spice Trade in Mamluk Egypt, JESHO 1 (1957—58), 162.

The period of Diocletian also saw the fortification of various other sites in the South. Procopius, Pers. I.19.34 notes that Philae was fortified; cf. for these fortifications, U. Monneret de Villard, La Nubia Romana, 5—8; a fragment from a dedication of the Tetrarchic period has been found at the site: IGR I.1928 = OGIS 719 = Inscr. Philae II.185, cf. on this text F. Blumenthal, Der ägyptische Kaiserkult, APF 5 (1913), 320—321. The new archaeological excavations at Elephantine have revealed a fortification wall on the Southwest side of the island but the date of this has not yet been securely determined, see W. Kaiser, P. Grossmann, G. Haeny and H. Jaritz, Stadt und Tempel von Elephantine, Erster Grabungsbericht, MDAI(K) 26 (1970), 91; W. Kaiser, et al., Stadt und Tempel von Elephantine, Zweiter Grabungsbericht, MDAI(K) 27.2 (1971), 198—200. At Luxor a Roman camp built by Diocletian has been identified, see U. Monneret de Villard, The Temple of the Imperial Cult at Luxor, Archaeologia 95 (1953), 85—105 (the structure had previously been identified as a Christian church).

[1722] To deal with the Blemmyes a special military command was created. Aurelius Maximinus in A.D. 308/309 bore the title *dux Aeg(ypti) et Theb(aidos) utrarumque Libyarum*, cf. AE (1934), nos. 7 and 8; see the discussion in P. Lacau, Inscriptions latines du temple de Louxor, ASAE 34 (1934), 22—29. The position of *comes limitis provinciae Thebaidos superioris* is first attested in A.D. 337, cf. P. Abinn. 1; for the date of this document see R. Rémondon, Militaires et civils dans une campagne égyptienne au temps de Constance II, JS (1965), 133. P.Abinn. 1 also contains a description of a Blemmye embassy to Constantius and Constans in A.D. 337/338 and the information that Abinnaeus spent, on the emperors' orders, three years among these people (lines 5—10): *directus a Senecione antehac comite limitis e[i]ụṣdem provinciae ducere Blemniorum gentis refugạ[s] ad sacra vesti⟨gi⟩a pietatis vestrae Constantinopolim eo peṛṛ[ex]i[mus] cum legatis memoratae ge[ntis] c[u]ṃ[qu]e c[omi]te eiusdem lim[iti]s, . . . Praeceptusque itaque producere memoratos leg[atos] ị[n pa]triam suam cum quibus trieṇn[e] tempus exigi remeandoque [ad sa]crum comitatum vestrum tirones ex provincia Thebaịdọṣ ạḍ[u]xị quos Hierapoli tradidi*, . . . For the career of Fl.Abinneus see R. Rémondon, JS (1965), 132—134. A further document form the same archive was recently published by R. Rémondon, Un papyrus inédit des archives d'Abinnaeus (P. Berlin inv. 11624), JJP 18 (1974), 33—37. For the *comes limitis Thebaidos superioris* of the fourth century and the *dux Thebaidos* of the fifth century see D. van Berchem, L'armée de Dioclétien et la réforme constantinienne (Paris 1952), 59—60; R. Rémondon, RH 213 (1955), 34—36; cf. the list of Egyptian military commanders of the fourth and fifth centuries in R. Rémondon, Le P. Vindob. inv. 25838 et les commandants militaires en Égypte au IV^e siècle et au V^e, CE 40 (1965), 186—190 and 192—197 on the *dux Thebaidos*. On the geographic jurisdiction of the *comes limitis* see R. Rémondon, Soldats de Byzance d'après un papyrus trouvé à Edfou, RecPap 1 (1961), 81—84.

Problems with the Blemmyes may have begun well before this time. It is remotely possibly that the appearance of two *duces* in Egypt in A.D. 240 (C. Domitius Philippus, in: P. Berl. Leihg. 9) and in 242 (P. Mich. III.164, cf. J. F. Gilliam, The Appointment of Auxiliary Centurions [P. Mich. 164], TAPhA 88 [1957], 161 n. 15) may be connected with some sort of menace in the south, see J. F. Gilliam, Egyptian 'Duces' under Gordian, CE 36 (1961), 390 n. 1; the latter document is now republished as Rom. Mil. Rec. no. 20. In CDGD no. Ph. 417 = MI II.121.13 there is an apparent mention (the text is doubtful) of an expedition by a Roman *dux* to Syene. This text is from c. A.D. 254

cf. MI II.121.21. For the possible connexion of this with a Blemmye raid see U. Monneret de Villard, Storia della Nubia Cristiana, 25. CDGD no. Ph. 252 of A.D. 273, a dedication by a "naval commander", has also been connected with a campaign against the Blemmyes, cf. F. L. Griffith, ad loc. For the possible alliance of the Blemmyes with the usurper Firmus and the Palmyrenes see J. Schwartz, BSRAA 37 (1948), 38, 43; the conclusion is based on HA Quadr. tyr. 3.3 and 5.3. In 268—270 the Blemmyes captured Coptos and Ptolemais but were eventually driven off by Probus, cf. HA Probus 17.3 and Zosimus I.71.1. For the extensive military preparations in Egypt in the reign of Probus see R. Rémondon, Un nouveau document concernant Probus, RPh 3 ser. 28 (1954), 199—208. The document published by Rémondon (P. Cairo IFAO 78) refers to the repairing of canals and the collecting of military supplies. P. Oxy. 43r of Feb. A.D. 295 probably refers to military movements connected with such a campaign rather than with a native revolt, see arguments of W. Ensslin, Zu Pap. Oxyrhynchus I 43 Recto, Aegyptus 32 (1952), 177—178. For artistic representations of the Blemmyes see L. Castiglione, ZÄS 96.2 (1970), 98—101. Cf. also C. Lacombrade, Sur l'auteur et la date des Éthiopiques, REG 83 (1970), 83—84.

For the relationship of the Blemmyes to the present Beja tribes of the Eastern Desert see Cosmas Indicopleustes II.60 (the Mon. Adul.): Ἀταλμῶ καὶ Βεγὰ καὶ τὰ σὺν αὐτοῖς ἔθνη πάντα Ταγγαϊτῶν, ... The scholion in the Laurentianus manuscript on this passage reads ⟨Το⟩ὺς Βλέμμυας ⟨οὕτ⟩ως (γὰρ add. Winstedt) καλοῦσιν οἱ Αἰθίοπες· The scholia here are thought to be from Cosmas' own hand, so E. O. Winstedt, The Christian Topography of Cosmas Indicopleustes (Cambridge 1909), 29, but cf. W. Wolska-Conus, Cosmas Indicopleustes Topographie Chrétienne, 1 (Paris 1968), 76—79. See also on the identity of the two peoples C. G. Seligman, Some Aspects of the Hamitic Problem in the Anglo-Egyptian Sudan, JRAI 43 (1913), 603—604 and L. P. Kirwan, LAAA 24.1/2 (1937), 69—76.

[1723] For the Nobades and their raids on the Oases see Procopius, Pers. I.19.28—35 who states that Diocletian encouraged these people to settle in the Nile valley south of Elephantine. For their connexion with the destruction of Meroe see L. P. Kirwan, Tanqasi and the Noba, Kush 5 (1957), 37—41; Idem, The Decline and Fall of Meroe, Kush 8 (1960), 166, 169—170; F. Hintze, Meroe und die Noba, ZÄS 94 (1967), 79—86 who discusses the topography of the western campaigns of Ezana and the meaning of Noba in DAE IV. no. 11 (republished with commentary by E. Littmann, Äthiopische Inschriften, MAB [1950], II.2 114—127). Cf. P. L. Shinnie, The Fall of Meroe, Kush 3 (1955), 84—85 who suggests that before c. A.D. 350 the Nobades took over the territory of the crumbling Meroitic kingdom and that these people are represented in cemetery 300 at Meroe and the graves at Ushara and Tanqasi. Kirwan distinguishes the Black Noba mentioned by Ezana from the so-called X-group of people whom he terms a foreign intrusive cultural strain, but argues that the burials of the former at Tanqasi are contemporary with the latter, L. P. Kirwan, Kush 5 (1957), 37—41. The so-called royal tombs in the cemeteries of Ballana and Qustul with their Byzantine imports (e. g. W. B. Emery, The Royal Tombs of Ballana and Qustul [Cairo 1938], 1.396—398 and from Firka, L. P. Kirwan, The Oxford University Excavations at Firka [Oxford 1939], 42; cf. for a possible Sasanian influence on royal ceremonial and insignia P. W. Schienerl, Sassanidische Einflüsse in Nubien ?, JÖZ 24 [1975], 1—9) appear to belong to the Nobades. Cf. W. B. Emery, op. cit., 1.18—24 who attributes the burials to the Blemmyes. The attribution to the Nobades is suggested by L. P. Kirwan, The Ballana Civilization: A Note on the Historical Geography of Lower Nubia, BSRGE 25 (1953), 103—110 and Idem, The Oxford Excavations at Firka, 42—44; so also K. Michalowski, Po prezhnemuli ostaetsia zagadkoi gruppa X ?, VDI (1967), 2.104—111 (based on excavations at Meinarti and Faras); but the Tanqasi mounds lack the abundant evidence of Byzantine imports found at Ballana and Firka, see P. L. Shinnie, Excavations at Tanqasi, 1953, Kush 2 (1954), 83—85; cf. M. Rassart, La Nubie chrétienne. Terre de rencontre de l'Égypte copte et de l'Éthiopie chrétienne, AIPHOS 20 (1968/72), 368. Anthropological analysis has increasingly tended to suggest that the various peoples which made up the culture termed

X-group were in fact largely the same as the preceding Meroitic culture, see W. Y. ADAMS, SNR 48 (1967), 16—17 and B. G. TRIGGER, The Royal Tombs at Qusṭul and Ballâna and their Meroitic Antecedents, JEA 55 (1969), 117—119 who stresses that increasingly the archaeological evidence tends to suggest that the X-Group Culture is a continuation of the Meroitic period.

[1724] The question of the date of the eclipse of the Meroitic kingdom is a difficult one, see above p. 647 for a discussion of conditions in the first century and recent archaeological investigations. There is an increasing body of evidence which suggests a growth rather than a decline in Meroitic activity near the Roman frontiers c. A.D. 250—350, lasting into the fourth century. See Meroitic hieroglyphs of the period A.D. 286—306 from Qaṣr Ibrîm which may record the repair of a local temple by king Amani-Yesbēkhe, J. M. PLUMLEY, Qaṣr Ibrim 1966, JEA 52 (1966), 12; B. G. HAYCOCK, JEA 53 (1967), 119. MI II.101 at Philae mentions Lakhizamani the mother of king Maleqerebar, cf. F. HINTZE, Studien zur meroitischen Chronologie und zu den Opfertafeln aus den Pyramiden von Meroe, ADAW (1959), 2.32—33 in whose reconstruction Maleqerebar is the last king of Meroe with a hypothetical date of A.D. 326—339. The same Mashtaraq who is responsible for MI II.101 is also mentioned in MI II.99, 100, 102, 103, 109, 110 and 111 which appear to be momentos from several different missions to the temple of Isis. The stele discovered at Aksha is also attributed to the fourth century, see J. VERCOUTTER, Excavations at Aksha, Kush 11 (1963), 139—140; cf. B.G. HAYCOCK, JEA 53 (1967), 119—120. L. P. KIRWAN, GJ 138.4 (1972), 464 notes that Axumite pressure in the south may have contributed to a northward shift of Meroitic peoples.

The last contacts between the Meroitic kingdom and Rome are attested by a series of Demotic and Greek inscriptions from Philae: CDGD no. Ph. 416 (A.D.252/253) the longest Demotic text from Philae. Two Greek inscriptions from Philae record another embassy of late A.D. 260, Inscr. Philae II. 180: Tὸ προσκύνημα 'Αβρατοεις/ ψεντης βασιλέως Aἰθίοπων/ ποιῶ, ...; Inscr. Philae II.181: Tὸ προσκύνημα τοῦ ἀξιολογοτάτου πρεσβευτοῦ/ Tαμις .... For the position of 'Αβρατοεις and the meaning of ψεντης i. e. whether it is a title or means "son of the king", see F. L. GRIFFITH, MI II. p. 47 n. 5; IDEM, Pakhoras — Bakharas — Faras in Geography and History, JEA 11 (1925), 261, n. 1; cf. W. VYCICHL, The Strategos of the Water, Kush 6 (1958), 187.

A Greek inscription of a king of Axum was found at Meroe. See first A. H. SAYCE, PSBA 31 (1909), 189—190, pl. XXIV; IDEM, LAAA 4 (1911), 64—65 with some rather speculative restorations: ['Αειζάνας βασιλεὺς 'Αξω]μειτῶν καὶ 'Ομηρειτῶ[ν ... υἱὸς θεοῦ ἀνικήτου] "Αρεως· ἀντιδικησάντ[ων ....]/ [... κατὰ καιρ]ὸν παρακούσας ἀπὸ τῆς [πόλεως? ....]/[.... ἐν τοῖς β]ασ(?)ιλίοις καὶ ἐξεπέρθησα τὰς ὕ[λας? ....]/ ..... P. L. SHINNIE, The Fall of Meroe, Kush 3 (1955), 82—85 suggests a date between A. D. 250 and 350; cf. L. P. KIRWAN, Kush 5 (1957), 37 who assigns the inscription to a predecessor of Ezana; F. HINTZE, ADAW (1959), 2.31 suggests a date of c. A.D. 320. A campaign against the Noba by Ezana is mentioned in a Geez inscription, DAE IV. no. 11 (cf. above n. 1236). The new Greek Ezana inscription from Axum also refers to a campaign against the Noba and this may indicate that the Meroe inscription should be attributed to the same king (lines 22—27): 'Εξῆλθα πολεμῆσαι / τοὺς NΩBA, ὅτι κατέκραξαν κατ' αὐτῶν / οἱ MANΓAPΘΩ καὶ XAΣA καὶ ATIAΔITAI / καὶ BAPEΩTAI λέγοντες ὅτι κατεπόνη/σ̣α̣ν ἡμᾶς οἱ NΩBA, βοηθήσατε ἡμῖν, ὅτι ἔ/θληψαν ἡμᾶς ἀποκτένοντες A. CAQUOT and P. NAUTIN, JS (1970), 265.

[1725] For the regions under Blemmye control in c. 420/421 when Olympiodorus visited the region see Olympiodorus apud Photius 62a (HENRY): "Ὅτι ὁ ἱστορικός φησι διάγοντος αὐτοῦ κατὰ τὰς Θήβας καὶ Σοήνην ἱστορίας ἕνεκα, ἐν ἐπιθυμίᾳ γενέσθαι τοὺς φυλάρχους καὶ προφήτας τῶν κατὰ τὴν Tάλμιν βαρβάρων, ἤτοι τῶν Bλεμμύων, τῆς ἐντυχίας αὐτοῦ· ἐκίνει γὰρ αὐτοὺς ἐπὶ τοῦτο ἡ φήμη. Kαὶ ἔλαβόν με, φησί, μέχρι αὐτῆς τῆς Tάλμεως, ὥστε κἀκείνους τοὺς χώρους ἱστορῆσαι διέχοντας ἀπὸ τῶν Φιλῶν διάστημα ἡμερῶν πέντε, μέχρι πόλεως τῆς λεγομένης Πρίμα, ἥτις τὸ παλαιὸν πρώτη πόλις τῆς Θηβαΐδος ἀπὸ τοῦ βαρβαρικοῦ ἐτύγχανε· διὸ παρὰ τῶν 'Ρωμαίων ῥωμαίᾳ φωνῇ Πρῖμα ἤτοι πρώτη ὠνομάσθη, καὶ νῦν οὕτω καλεῖται καίτοι ἐκ πολλοῦ οἰκειωθεῖσα τοῖς βαρβάροις μεθ' ἑτέρων τεσσάρων πόλεων, Φοινικῶνος, Χίριδος, Θάπιδος, Τάλμιδος. Cf. K. Fitzler, Steinbrüche u. Bergwerke, 101, 118—119, 124 who assumes that the mines at Mons Smaragdus are still under Roman control. At Philae CDGD no. Ph. 436 of A. D. 394 may reflect Blemmye use of the temple, cf. Procopius, Pers. I.19.34—35.

The inscription of Silko king of the Nobades found at Kalabsha records battles against the Blemmyes at Talmis and Taphis. For the text see OGIS 201: 'Εγὼ Σιλκώ, βασιλίσκος Νουβάδων καὶ ὅλων τῶν / Αἰθιόπων, ἦλθον εἰς Τάλμιν καὶ Τάφιν. ἅπαξ δύο ἐπο/λέμησα μετὰ τῶν Βλεμύων, καὶ ὁ θεὸς ἔδωκέν μοι τὸ/ νίκημα. A diplomatic transcription of the text was published by H. Gauthier, Le temple de Kalabchah (Cairo 1911), 204—205 (from the bibliography of earlier publications of the text which he gives Dittenberger is missing). For the attribution of this text to the fifth century see U. Wilcken, Heidnisches und Christliches aus Ägypten, APF 1 (1901), 419n. 2; L. P. Kirwan, LAAA 24.1/2 (1937), 84—86 and Idem, in: Mélanges Michalowski, 123—125; cf. L. Castiglione, ZÄS 96.2 (1970), 100—101.

For the short-lived nature of the Blemmye kingdom see L. P. Kirwan, LAAA 24.1/2 (1937), 79—80. The presently published Greek and Coptic documents of the Blemmyes were apparently all acquired at Gebelen south of Thebes (there is considerable doubt about the find-site), see J. Krall, Ein neuerer nubischer König, WZKW 14 (1900), 233—234; for the documents see J. Krall, Beiträge zur Geschichte der Blemmyer und Nubier, DAWW 46.4 (1900), 1—23 = StudPal III.132—134 (no. 132 = Chrest. Wilck. 7); BGU III.795—797; BKU III.360; P.Berl. 8978 and 8980, cf. commentary on these latter two and emendations of previous texts in H. Satzinger, Urkunden der Blemmyer, CE 43 (1968), 126—132; BKU III.350, 359—360. All of the texts may palaeographically be dated as late as the sixth century and seem to come from a time when the Blemmyes had become nominal vassals of the Romans, see L. P. Kirwan, LAAA 24.1/2 (1937), 86—87.

[1726] There is evidence that some of the mines and quarries of the Eastern Desert continued to be worked in the early fourth century, cf. L. A. Tregenza, Univ. of Egypt, Bull. Fac. of Arts, 13.2 (1951), 52 who mentions inscribed amphorae of this date found at Wadi Gidami. For the Lycabettus quarry inscription see SEG VIII.647. The text is variously dated between A.D. 305 and 361 (so A. H. M. Jones); see on this text C. H. O. Scaife, Univ. of Egypt, Bull. Fac. of Arts, 3.2 (1935), 58—61; D. Meredith, JEA 38 (1952), 107—108; Idem, CE 28 (1953), 131—133. For the church at Wadi Qattar built before A.D. 339 see G. M. Murray, The Christian Settlement at Qattar, BSRGE 24 (1951), 107—112, pl. I. The Eastern Desert has also yielded a brief Axumite inscription from Wadi Menih and Littmann has argued that the text is Christian and palaeographically attributable to the fourth century, E. Littmann (with D. Meredith), An Old Ethiopic Inscription from the Berenice Road, JRAS (1954), 120—123, pl. XXX.

[1727] For the family and career of Odaenathus and Zenobia see C. Clermont-Ganneau, Odeinat et Vaballat, RB 29 (1920), 382—419; H. Mattingly, The Palmyrene Princes and the Mints of Antioch and Alexandria, NC 5ser. 16 (1936), 89—114 (now almost entirely superseded); J. G. Février, Essai, 75—114; M. Rostovtzeff, Berytus 8.1 (1943), 54—56; D. Schlumberger, L'inscription d'Hérodien. Remarques sur l'histoire des princes de Palmyre, BEO 9 (1942/43), 35—50; H. Seyrig, Les fils du Roi Odainat, AAS 13 (1963), 159—172; L. de Blois, Odaenathus and the Roman-Persian War of 252—264 A. D., ΤΑΛΑΝΤΑ 6 (1974), 7—21; T. D. Barnes, Phoenix 27.2 (1973), 147.

For the Palmyrene conquest of Egypt see J. G. Février, Essai, 138—141; J. Schwartz, BSRAA 40 (1953), 66—81; Idem, Annales (ESC) (1960), 31—35. Both Février (139n. 3) and Schwartz stress the importance of collaboration by the Palmyrenes living in Upper Egypt. For the issues of Vaballathus from the Alexandria mint see J. G. Milne, Some Alexandrian Coins, JEA 4 (1917), 183—185. Two small fragments of a letter on papyrus have been attributed to various emperors including Vaballathus. See first, J. W. B. Barns, A Letter of Severus Alexander, JEA 52 (1966), 141—146 who considered the letter to be from Severus Alexander to an Egyptian city; cf. J. R. Rea, A Letter of Severus Alexander?, CE 42 (1967), 391—396 arguing that the document is addressed by

Maximinus the Thracian to Rome; cf. P. J. PARSONS, A Proclamation of Vaballathus?, CE 42 (1967), 397—401 who prefers to see the document as a proclamation issued by Vaballathus as the Palmyrene army advanced on Alexandria (= SB X.10295). See particularly A. K. BOWMAN, A Letter of Avidius Cassius?, JRS 60 (1970), 20—26 who makes a strong case for identifying the unnamed emperor as Avidius Cassius (for Avidius Cassius' strong support in Egypt see J. SCHWARTZ, Nouveaux aperçus sur l'Égypte au temps de Marc-Aurèle [161—180], AncSoc 4 [1973], 195); cf. P. J. SIJPESTEIJN, Edict of C. Calvisius Statianus, ZPE 8.2 (1971), 186, n. 3. A papyrus which can be securely attributed to the Palmyrene conquest of Egypt has now been published in P.Oxy. XLIII.3115, an order to supply barley to Palmyrene cavalry from A.D. 271.

[1728] For the conquest of Palmyra by Aurelian see J. G. FÉVRIER, Essai, 115—141. A. VON GERKAN, Berytus 2 (1935), 28—29, 33 concluded from his analysis of the surviving fortification of Palmyra that under Diocletian only the areas of relevance to the military camp were fortified (for the controversy over the date of these fortifications see above n. 540). The Greek and Palmyrene inscriptions from the site come to an end with the year A.D. 273 with the exception of texts (Greek and Latin) relating to the military camp and its inhabitants and a few Christian inscriptions. For Diocletian's camp see D. KRENCKER, in: T. WIEGAND (ed.), Palmyra, 85—105; for the results of the Polish excavations in the camp see K. MICHALOWSKI, Palmyre, Fouilles Polonaises, 1959 (Warsaw 1960), 11—136; IDEM, Palmyre, Fouilles Polonaises, 1960 (Warsaw 1962), passim; IDEM, Palmyre, Fouilles Polonaises, 1961 (Warsaw 1963), 9—194; IDEM, Palmyre, Fouilles Polonaises, 1962 (Warsaw 1964), 9—143. For a Latin inscription from the camp see CIL III Suppl. 6661 = Inv. VI.2 (of Tetrarchic date). For dated Christian funerary inscriptions found at Palmyra see for example, Inv. VIII.212 (A.D. 555) and 213 (A.D. 442). A further text from A.D. 552 was published by Z. BORKOWSKI, A New Christian Stela from Palmyra, in: Mélanges Michalowski, 311—312.

[1729] For Sasanian beginnings see above n. 1361. A number of studies have dealt in detail with Sasanian imperial administration; see in particular, F. ALTHEIM and R. STIEHL, Finanzgeschichte der Spätantike, 7—53 (on Sasanian taxation and finances); M.-L. CHAUMONT, JA 249 (1961), 304—314 (on the continued powers and privileges of the Suren family under the Sasanians); IDEM, JA 250 (1962), 11—22 (on garrison commanders); IDEM, JA 252 (1964), 59—72 (on the coronation of the Sasanian kings); IDEM, Chiliarque et Curopalate à la cour des Sassanides, Iranica Antiqua 10 (1973), 139—165.

[1730] For the loose political structure of the Arsacid state see above pp. 641—642. Apart from royal Sasanian inscriptions, which mention primarily the kings, vassal kings and high court functionaries, perhaps the greatest potential resource for the future understanding of the administrative divisions of the Sasanian empire are clay sealings. Usually these bear inscriptions stating either a place name and its district and/or a bureaucratic title, see R. N. FRYE, Die Legenden auf sassanidischen Siegelabdrücken, WZKM 56 (1960), 33—35; IDEM, Sasanian Clay Sealings in the Collection of Mohsen Foroughi, Iranica Antiqua 8 (1968), 118—132; IDEM, Sasanian Clay Seal Impressions Again, BAIPU 3/4 (1975), 1—8; cf. P. GIGNOUX, Problèmes d'interpretation des bulles sassanides, StIr 2 (1973), 137—142 and IDEM, Nouveaux toponymes Sassanides, JA 262 (1974), 299—304 (3 new toponyms from the time of Peroz and Kavad I including 2 seal impressions from Tureng Tepe); cf. J. HARMATTA, Die sassanidischen Siegelinschriften als geschichtliche Quellen, AAntHung 12 (1964), 220—230 who cites numerous inscribed gems bearing the names and titles of members of the Sasanian royal family and high government officials.

[1731] The extent to which this is a change from the Parthian period is not certain. Few Parthian fortifications from the Euphrates frontier are known. The citadel and the upper part of the city wall and towers at Dura are probably of Parthian construction, see M. ROSTOVTZEFF, YCS 5 (1935), 204.

For the fortifications on the Roman side of the frontier see the literature cited above n. 935. An official bearing the title *dux ripae* with responsibility for the defence of the Euphrates in Coele Syria against the Persians was headquartered at Dura by A. D. 245 at the latest. See the excellent discussion of this officer in J. F. Gilliam, TAPhA 72 (1941), 157—174.

We possess some knowledge of the nature of Sasanian fortification from both inscriptions and the archaeological remains. At Derbent in the Caucasus a massive wall together with a building inscription dated to the year 700 (probably in the Seleucid era) has been found, see G. Gropp, Die Derbent-Inschriften und das Adur Gušnasp, AcIr 2 ser. 1 (1975), 317—318. A Sasanian inscription of the year A.D. 335 (in the reign of Shapur II) from Mishkinshar records how Narisah Hormizd at the king's orders built a border fortress in six years of labour, see text in G. Gropp, Die sasanidische Inschrift von Mishkinshahr in Azarbaidjan, AMI N.F. 1 (1968), 149—157. Many of these Sasanian fortresses show a close resemblance to fourth century Roman border *castella*: e.g. the Qual'eh Seidj Dukkan, W. Kleiss, Die Festung Qaleh Seidj Dukkan bei Sarpol-i Zohab in West Iran, AMI N.F. 7 (1974), 215—221. Also indicative of the massive nature of Sasanian fortifications are two walls with bastions at Eski-Baghdad and Zindan, see K. Schippmann, Dastagird, BAIPU 1 (1969), 43—45. A Pahlavi manuscript of the fourteenth century states that Ardashir and Shapur established a line of fortresses along the western frontier of their empire, see H. S. Nyberg, Die sasanidische Westgrenze und ihre Verteidigung, in: Septentrionalia et Orientalia. Studia Bernhardo Karlgren Dedicata, Kungl. Vitterhets Historie och Antikvitets Akademiens Handingar 91 (1959), 316—326.

[1732] The Roman-Persian peace treaty of A.D. 297 confined all commercial traffic between the two empires to Nisibis, which was then in Roman hands, Petrus Patric, frag. 14 (FHG IV. p. 187). Theodosius II, citing earlier regulations of similar purport, forbade Roman merchants to do business with Persians in any cities other than Nisibis, Callinicus and Artaxata, Cod. Iust. IV.63.4.

[1733] For the chronology see above n. 1705. Henning traces the route of Shapur's campaign in Syria and Cappadocia on the basis of SKZ, see W. B. Henning, BSOS 9 (1938), 823—843 who correctly emphasises that the aim of Shapur's campaign was not conquest but to do as much damage to Rome's eastern provinces as possible. See Shapur's boast in lines 11—12 of the Greek text in reference to the second campaign: καὶ τὸ ἔθνος τῆς Συρ̣[ί]α̣ς καὶ ὅ[σα ἐπ' α]ὐτὴν ἔθνη καὶ περίχωροι ἦσαν, πάντα ἐκαύσαμεν καὶ ἠρημώσαμεν καὶ ἐκρατήσαμεν καὶ ἐν ἐκείνῃ τῇ μιᾷ ἀγωγῇ ἀπὸ τοῦ ἔθνους Ῥωμαίων καστέλλους τε καὶ πόλει̣[ς]· There follows a list of cities including Ἀντιόχιαν πόλιν σὺν τῇ περιχώρῳ. Again in the third campaign (lines 26—27): Καὶ τὸ ἔθνος τῆς Συρίας καὶ τό ἔθνος τῆς Κιλικίας καὶ τὸ ἔθνος τῆς Καππαδοκίας πυρὶ ἐκαύσαμεν καὶ ἠρημώσαμεν καὶ ἠχμαλωτίσαμεν καὶ ἐκρατήσαμεν. Again there follows a list of cities conquered including (lines 27, 31): Σαμόσατα πόλιν σὺν τῇ περιχώρῳ̣ .... Ἀντιόχιαν πόλιν σὺν τῇ περιχώρῳ̣ ...., A. Maricq, Syria 35 (1958), 309, 313 (= Idem, Classica et Orientalia [Paris 1965], 51, 55).

[1734] For Dura as a caravan city see M. Rostovtzeff, Caravan Cities, 105; cf. D. Schlumberger, Gn 11 (1935), 87 who suggests that the city was merely a military fortress; cf. the reassertion by M. Rostovtzeff, YCS 5 (1935), 200n. 51. Most scholars have accepted Rostovtzeff's view that the city was captured probably for the second time and destroyed in A.D. 256. For the date of the Persian sieges see M. Rostovtzeff, Berytus 8.1 (1943), 48—60; A. R. Bellinger, The Excavations at Dura-Europos, Final Report VI: The Coins (New Haven 1949), 210; C. H. Kraeling, The Excavations at Dura-Europos, Final Report VIII: The Synagogue (New Haven 1956), 336—337; M. Sprengling, Third Century Iran, Sapor and Kartir, 88; T. Pekary, Bemerkungen zur Chronologie des Jahrzehnts 250—260 n. Chr., Historia 11 (1962), 126; L. de Blois, ΤΑΛΑΝΤΑ 6 (1974), 9—10. This reconstruction has been challenged by Altheim in his publication of 5 Pahlavi ostraca from Dura. Basing himself on his reading of the Persian regnal date in a wall inscription in the synagogue buried during the siege, Altheim proposed a date of A.D. 259/260 for the only capture of Dura by Shapur. The Pahlavi ostraca and parchments from the site he dated to the period of Persian rule, 259/260 to 262 (A.'s dates). See F.

ALTHEIM and R. STIEHL, Das erste Auftreten der Hunnen. Das Alter der Jesaja-Rolle. Neue Urkunden aus Dura-Europos (Baden-Baden 1953), 1—23 (publication of the ostraca, cf. the corrected readings and harsh criticism in the review by W. B. HENNING, Gn 26 [1954], 478—479); F. ALTHEIM and R. STIEHL, Asien und Rom. Neue Urkunden aus sasanidischer Frühzeit (Tübingen 1952), 22—30 (on the synagogue inscriptions, cf. corrections of the readings in J. HARMATTA, AAntHung 6 [1958], 154n. 157 who concludes that the second of the texts read by ALTHEIM as year 18 contains no date). HARMATTA argues that there was only one capture of the city and that that was in A.D. 256. Since the Parthian language was in use on ostraca and in parchment documents of the Roman period, there is no reason to place the Pahlavi inscriptions from the synagogue after the Persian capture of the city (op. cit. 152—158). HARMATTA's ostraca nos. 1—5, which are lists of taxes paid in grain to a Sasanian official (*šahraβ*), come from the period 256—262 and the very large proportion of Iranian names suggest that the original inhabitants were killed or carried off by Shapur and Persians settled on their lands; cf. AAntHung 6 (1958), 148—168.

[1735] For Hatra as a caravan city see M. A. STEIN, JRAS (1941), 300—306; A. MARICQ, Syria 34 (1957), 296 (= IDEM, Classica et Orientalia, 25) and above n. 792. Substantial portions of Ardashir's siege walls can still be seen around Hatra, E. HERZFELD, ZDMG 68 (1914), 669. Recent excavations in the Triad Temple have uncovered arrow heads, broken statues and skeletal remains which may possibly be from the city's last stand, see I. SALMAN, The Iraqi Archaeological Expeditions, Sumer 29.1/2 (1973), p. f. Hatra never recovered, Ammianus XXV.8.5: *vetus oppidum in media solitudine positum, olimque desertum, . . .* (A.D. 363).

[1736] For Emesa as a caravan city see M. ROSTOVTZEFF, Caravan Cities, 32. The area was similar to Palmyra, containing Bedouin tribes and a territory suitable for the raising of camels. Tetradrachms issued in the name of the usurper Uranius Antoninus from Emesa (c. A.D. 253/254) have a harnessed camel on the reverse, see H. SEYRIG, Syria 36 (1959), 192 fig. 2.

[1736a] Aerial photography, ground surveys and new excavations have in the past decade shed a good deal more light on the fate of the much fought-over regions of Mesopotamia and Babylonia in the Sasanian period. Along the lower reaches of the Euphrates the region around Uruk which had been densely settled in the Parthian period was abandoned in the late Parthian and early Sasanian periods and the irrigation network of the area became a large swampland. But to the north of the swamps the pattern of Sasanian settlements (particularly at Medina, Tell Hummam and Ruqba Medain) and watercourses reflects a period of expansion and vigorous development, see R. McC. ADAMS and H. J. NISSEN, The Uruk Countryside. The Natural Setting of Urban Societies (Chicago/London 1972), 59—63. On the Diyala Plains, the hinterland of Seleucia-Ctesiphon, the dense settlement pattern of the Seleucid and Parthian periods shows signs of a further intensification of exploitation in the Sasanian period; but the sites on the west bank of the Tigris appear to be largely abandoned, possibly as a result of the threat posed by invading Roman armies, see R. McC. ADAMS, Land Behind Baghdad. A History of Settlement on the Diyala Plains (Chicago/London 1965), 61—76. The archaeological evidence for the fate of the great Parthian centre of Seleucia still permits few detailed conclusions. Excavations in the complex of sites that constitute Seleucia, Choche and Ctesiphon is complicated by changes in the course of the Tigris in the Sasanian period and the over-lapping perimeters of all three ruined sites. The American excavations in 1930—32 seem to indicate that Seleucia never fully recovered from the destruction caused by Lucius Verus in A.D. 165, although some occupation continued. The Italian excavations at Seleucia and Choche tend to confirm that by the middle of the Sasanian period most urban structures at both Seleucia and Choche, to the extent that they were on the west bank of the Tigris, were abandoned. See R. H. McDOWALL, Coins from Seleucia on the Tigris (Ann Arbor 1935), 235—236; G. GULLINI, Problems of an Excavation in Northern Babylonia, Mesopotamia 1 (1966), 7—38 (on the identification of present remains with the various ancient cities); A. INVERNIZZI, The Excavations at Tell 'Umayr, ibid., 58—60; M. CAVALLERO, The Excavations at Choche (the Presumed Ctesiphon), ibid., 80—81; P. SHINAJA, A Coin

Hoard from Choche, Mesopotamia 2 (1967), 105—133 (all struck by Ardashir); A. INVERNIZZI, The Excavations at Tell ʿUmar, Mesopotamia 3/4 (1968/69), 16—17.

[1737] See the evidence collected in R. S. LOPEZ, Silk Industry in the Byzantine Empire, Speculum 20.1 (1945), 1—42.

[1738] Cf. above n. 1720.

[1739] See above n. 995.

[1740] Cf. R. S. LOPEZ, Speculum 20.1 (1945), 1—3.

[1741] By the late fourth century the purchase of silk from abroad was the exclusive prerogative of the *comes commerciorum* and subordinate *comites*. By a law of Justinian these officials purchased silk at 15 *solidi* per pound from the Persians and sold it at the same rate to the *metaxarii*, Cod. Iust. IV.40.2, VIII.13.27 cf. A. H. M. JONES, EHR 13.2 (1960), 191. See R. S. LOPEZ, Speculum 20.1 (1945), 2—13 for the inability of the Byzantine monarchy to successfully maintain a monopoly on the production of silk fabrics. LOPEZ's study of the guilds has now been superceded by the detailed analysis of D. SIMON, Die byzantinischen Seidenzünfte, BZ 68.1 (1975), 23—46; see also N. PIGULEVSKAIA, Byzanz auf den Wegen nach Indien² (Berlin 1969), 80—87.

[1742] The archaeological and literary evidence for economic prosperity in Byzantine Palestine is surveyed in M. AVI-YONAH, The Economics of Byzantine Palestine, IEJ 8 (1958), 39—51. E. J. PRAWDZIC-COLEMBERSKI and D. M. METCALF, NC 7 ser. 3 (1963), 85—87 collect the evidence for the circulation of bronze issues from the Alexandria mint in Palestine, Syria and Mesopotamia.

[1743] K. HANNESTAD, Byzantion 25/27.2 (1955/57), 421—456; H. A. MANANDIAN, The Trade and Cities of Armenia in Relation to Ancient World Trade² (Lisbon 1965), 80—82, 129—132; N. PIGULEVSKAIA, Byzanz auf den Wegen nach Indien², passim.

[1744] From the end of the fourth century onward finds of coins and artifacts of Mediterranean origin disappear in India and become rare in Ceylon.

[1745] Cosmas XI.14—15, cf. B. J. PERERA, The Foreign Trade and Commerce of Ancient Ceylon: Ancient Ceylon's Trade with the Empires of the Eastern and Western Worlds, CHJ 1.4 (1952), 303—305. In general on Sasanian commerce in the Indian Ocean see G. F. HOURANI, Arab Seafaring, 38—46; B. E. COLLESS, Persian Merchants and Missionaries in Medieval Malaya, JMBRAS 42.1 (1969), 102—119; IDEM, The Traders of the Pearl, Abr-Nahrain 10 (1970/71), 102—114; IDEM, Abr-Nahrain 13 (1972/73), 115—125; cf. O. W. WOLTERS, The 'Po-ssŭ Pine Trees', BSOAS 23 (1960), 344—348 who argues that the Persians in the fourth to sixth centuries were not important in the commerce East of Ceylon; IDEM, Early Indonesian Trade, A Study of the Origins of Srivijaya (Ithaca 1967), 129—148. The evidence for Sasanian maritime trade in the Persian Gulf is collected in D. WHITEHOUSE and A. WILLIAMSON, Iran 11 (1973), 29—49. It was undoubtedly on a merchant vessel engaged in this trade that Mani travelled to and from India, cf. W. SUNDERMANN, Mani in India, in Proc. 2.153—157.
The recent excavations at Siraf uncovered a Sasanian fortress and town wall of the port site. WHITEHOUSE has suggested that Siraf may have been the port of the city of Gur which was rebuilt by Ardashir I, see D. WHITEHOUSE, Antiquity 45 (1971), 262—264.

[1746] In general on sea-borne commerce in this period see F. HIRTH and W.W. ROCKWELL, Chau-Ju-kua: His Work on the Chinese and Arab Trade in the Twelfth and Thirteenth Centuries (St. Petersburg 1912), passim; G. F. HOURANI, Arab Seafaring, 51—82; N. M. LOWICK, Trade Patterns on the Persian Gulf in the Light of Recent Coin Evidence, in: D. K. KOUYMJIAN (ed.), Studies in Honor of George C. Miles, 319—333.

[1747] E. g.: Kuala Selinsing, late Sung celadon ware, I. H. N. EVANS, JFMSM 15 (1929), 27; IDEM, JFMSM 15 (1932), 86; late T'ang ware on the Sungai Batu Estate, Kedah, H.

G. Q. WALES, JMBRAS 18.1 (1940), 24—25; at Matang Pasir, Kedah, excavation of what was possibly a Buddhist shrine yielded Chinese celadon ware of the tenth to thirteenth centuries, M. SULLIVAN, Excavations in Kedah and Province Wellesley, 1957, JMBRAS 31.1 (1958), 192—200; at Tikam Batu, Southern Kedah, Sung celadon and stoneware, ibid., 201—206 (14 sherds); Bukit Batu Lintang, Chinese ceramics of the Sung and Yuan periods, ibid., 206—212; at Guak Kepah, Prov. Wellesley, a *stupa* yielded a few fragments of T'ang stoneware, D. C. and H. G. Q. WALES, JMBRAS 20.1 (1947), 5; at Kuantan and Pekan, Pahang surface exploration has yielded Chinese ceramics, some of which go back to the T'ang period, C. JACK-HINTON, On Two Archaeological Field Reconnaissances in Coastal Pahang (relative to Borneo), SMJ 12 (1965), 130—132; Takuapa has yielded large amounts of T'ang ceramics and Pengkalan Bujang Sung ceramics, A. LAMB, FMJ n. s. 6 (1961), 73—88, IDEM, Research at Pengkalan Bujang: A Preliminary Report, FMJ n. s. 6 (1961), 21—37.

[1748] For the excavation of T'ang, Yuan and Sung stoneware and ceramics at Sarawak Delta sites in Southwest Borneo see in general T. HARRISSON, Some Ceramics Excavated in Borneo, TOCS 28 (1954), 11—21 (attribution to kilns); C. ZAIRE (with T. HARRISSON), Early Chinese Stonewares Excavated at Sarawak, 1947—67, SMJ 15 (1967), 30—90; T. HARRISSON, SMJ 16 (1968), 55—63; T. HARRISSON, AP 13 (1970), 22—23 (general summary); T. HARRISSON and S. J. O'CONNOR, Excavations of the Prehistoric Iron Industry in West Borneo, 2 (Ithaca 1969), 266—276. For T'ang ceramics from the Niah caves see T. HARRISSON, JMBRAS 38.1 (1965), 246—247. For possible pre-T'ang date of the Yüeh wares from the cave see B. HARRISSON, JMBRAS 37.2 (1964), 193 and R. P. GRIFFING, Early Borneo Export Wares, SMJ 11 (1963), 174; for T'ang and Sung coins from Kota Batu in Brunei, see T. HARRISSON, AP 13 (1970), 25. Chinese stoneware and earthware, some of the T'ang period, has been excavated at the same site, B. HARRISSON, A Classification of Archaeological Trade Ceramics from Kota Batu, Brunei, BMJ 2.1 (1970), 117—129. Gedong in the Simunjan District of Sarawak has yielded almost 19,000 Chinese sherds and a single early T'ang coin, R. NYANDOH and L. CHIN, A Progress Report on Archaeological Work at Gedong (1967—1969), SMJ 17 (1969), 80—88. The burial ground at Tanjong Tegok yielded 1,623 sherds of late T'ang to Sung ware, T. HARRISSON, Tanjong Tegok: a Prehistoric 'Cemetery' on the South China Sea, SMJ 16 (1968), 55—63; cf. the comments of T. HARRISSON, Recent Archaeological Discoveries in East Malaysia and Brunei, JMBRAS 40.1 (1967), 142—143.

[1749] T'ang ware was found in a megalithic grave in Eastern Java, W. J. A. WILLEMS, Het onderzoek der megalithen te Pakoeman bij Bondowoso, RODNI 3 (1938), 21.

[1750] For the commercial importance of Sumatra in the T'ang period see O. W. WOLTERS, Early Indonesian Commerce, 235—239. For T'ang ceramics from southern Sumatra see F.W. v. O. DE FLINES, JKBGKW 5 (1938), 161. Large quantities of Chinese porcelain, some going back to the thirteenth century, have been found at sites on Celebes near Takalar and Makassar, see TAN YEOK SEONG, Report on the Discovery of Ancient Porcelain Wares in Celebes, JSSS 12.2 (1956), 1—2. T'ang ceramics (?) also appear to have been found on Java near Semarang and Demak, see R. SOEKOMO, A Geographical Reconstruction of Northeastern Central Java and the Location of Medang, Indonesia 4 (1967), 3.

[1751] Sung and Yuan porcelains have been found in the vicinity of Tabon on Palawan island, W. G. SOLHEIM, Prehistoric Archaeology in Eastern Mainland Southeast Asia and the Philippines, AP 13 (1970), 53—54. However, most Chinese material found at Philippine sites is Ming or later (fourteenth to sixteenth centuries): e.g. the Mabaas sites, Bahi Cave, Misibis and Kagbulakaw, see R. B. FOX and A. EVANGELISTA, The Cave Archaeology of Cagraray Island, Albay Province, Philippines, UMJEAS 6.1 (1957), 60—65. As at the Sarawak sites, in the Philippines the arrival of iron, glass beads and Chinese porcelain appears to be contemporary, cf. R. B. FOX and A. EVANGELISTA, The Bato Caves, Sorsogon Province, Philippines, UMJEAS 6.1 (1957), 52—53 and C. O. HOUSTON, Progress in Philippine Archaeology: 1953—1957, UMJEAS 5.2 (1956), 215. The Chinese ceramics excavated at Calatagan have now been redated to the sixteenth century, see J. M. Addis, Chinese Porcelain Found in the Philippines, TOCS 37 (1967—69), 17—19.

[1752] Brahminabad, T'ang stoneware, R. L. Hobson, Potsherds from Brahminabad, TOCS 8 (1928/30), 21—23; Bambhore, T'ang stoneware, W. Willetts, Excavations at Bhambore near Karachi: Possible site of the Merchant Seaport of Debal in Sind, OA n. s. 6.1 (1960), 25—28; Nochchikuppam in Tamil Nadu has yielded local pottery imitating Chinese Celadon ware, IAR 1965—66, p. 25; in Uraiyur in Tamil Nadu two sherds of Chinese Celadon ware were found, IAR 1965—66, p. 27; Ambari in Assam, salvage operations at this site yielded a single fragment of Celadon ware, IAR 1968—69, p. 3; Purana Qila yielded a considerable number of Chinese Celadon fragments, IAR 1969—70, pp. 4—5; Madilakam in Kerala, excavations yielded Chinese Celadon ware, IAR 1969—70, p. 15; period III at Kanchipuram, Tamil Nadu, yielded T'ang Celadon ware, IAR 1969—70, p. 35; a few sherds of T'ang Celadon were found in the excavations at Ambari, Andhra Pradesh, IAR 1970—71, p. 4. A paper by B. Gray, The Export of Chinese Porcelain to India, TOCS 36 (1964—65), 21—25 deals with little beyond the Brahminabad sherds which Gray describes as T'ang. In Ceylon T'ang porcelain has been excavated at Mantai (ancient Mahatittha) and other pre-thirteenth century Chinese ceramics were found at Panduvas-nuvara and Yapahuva, see W. Willetts, Ceylon and China, TASSI (1960—62), 112—114, 116.
Chinese coins are also found in relatively small numbers: 3 coins (eleventh to twelfth centuries) were found at Balpur, Raigharh Dist., J. M. Unwala, Presidential Address, 1948, JNSI 10.2 (1948), 160—161; 20 coins from Tanjore (eighth to thirteenth centuries), P. C. Bagchi, Chinese Coins from Tanjore, SIS 1.1 (1949), 60—63 and A. S. Altekar, Chinese Coins from Tanjore, JNSI 7 (1945), 102; a hoard from Madras contained 1818 coins, R. B. K. N. Dikshit, Presidential Address, 1945, JNSI 8 (1946), 4 and P. C. Bagchi, Report on a New Hoard of Chinese Coins, SIS 4 (1953), 194—196 (at Vikram and Thallikottai); cf. N. S. Narayana, Three Hoards of Chinese Coins in Madras Government Museum, JNSI 33 (1971), 63—68 who publishes another Madras hoard of 323 Chinese coins found at Olayakunnam village, Tanjore Dist. The latest coin is from the thirteenth century. A single T'ang coin has been found in a temple at Sirpur, M. G. Dikshit, A Chinese Coin from Sirpur, JNSI 18 (1956), 64—66. Two hoards of Chinese coins, both containing issues from the early T'ang period and the thirteenth century, have been found at Polonnaruva and Yapahuva in Ceylon, see W. Willetts, TASSI (1960—62), 115.

[1753] Susa, T'ang stoneware, R. Koechlin, Les céramiques musulmanes de Suse au Musée du Louvre, MDP 19 (1928), 65; also a T'ang mirror from the same site, R. Ghirshman, Un miroir T'ang du Suse, Artibus Asiae 19 (1956), 230—233; Bushire, T'ang stoneware, D. Whitehouse, Iran 6 (1968), 18; Siraf, large quantities of Chinese pottery of the ninth and tenth centuries, D. Whitehouse, Iran 6 (1968), 16—18; Daiyir, T'ang stoneware, M. A. Stein, Archaeological Reconnaissances in North-Western India and South Eastern Iran (London 1937), 233; Bibi Khatun, T'ang stoneware, D. Whitehouse, Iran 6 (1968), 17—18; at Nishapur, Chinese ceramics of the ninth century were found, C. K. Wilkinson, Nishapur: Pottery of the Early Islamic Period (New York 1976), 254—257; Samarra, eighth and ninth century Chinese pottery, F. Sarre, Die Keramik von Samarra (Berlin 1925), 54—64, 86—88, cf. J. M. Plumer, Certain Celadon Potsherds from Samarra Traced to their Source, ArsIs 4 (1937), 195—200 who attributes nos. 206—209 from Samarra to kilns at Shang Lin Hu in ancient Yüeh; Tepe Dasht-i Deh, Chinese sherds were found on the surface, C. C. Lamberg-Karlovsky, Excavations at Tepe Yahya, Iran 1967—1969, Progress Report I (Cambridge, Mass. 1970), 5. At Ghubayra in 1972 a large portion of a Sung porcelain bowl was excavated, see A. D. H. Bivar and G. Fehérvári, Ghubayra, Iran 11 (1973), 194—195; T'ang stoneware has been found at Minab in Iran and Dhahran in northeast Arabia, both on the Persian Gulf, D. Whitehouse and A. Williamson, Iran 11 (1973), 48—49. At Rayy near Teheran the presence of T'ang ceramics is confirmed by both surface finds and literary evidence, P. Kahle, Chinese Porcelain in the Lands of Islam, TOCS 13 (1940—41), 30, 36; T'ang Celadon has been found in the Firuzabad and Qir oases and at Estahr, G. GROPP, AMI N.F. 3 (1970), 184; STEIN reported Chinese pottery amidst the Sasanian ruins at Qalʿa Safid, see M. A. STEIN, Old Routes of Western Iran (London 1940), 31. At Ashkelon two fragments of late T'ang Yüeh ware were found and at both Ashkelon and Caesarea imitations of the same came to light, J. D. FRIERMAN, Chinese Ceramics from Ashkelon and Caesarea, IEJ 19.1 (1969), 44—45.

[1754] Mogadishu, Chinese coins, F. STAHLMANN, Beiträge zur Kulturgeschichte von Ostafrika, 860 n. 2; Gedi, two Chinese coins, J. S. KIRKMAN, The Arab City of Gedi: The Great Mosque (Oxford 1954), 149, the same site also yielded Chinese porcelain but none earlier than the thirteenth century, see J. S. KIRKMAN, Some Conclusions from Archaeological Excavations on the Coast of Kenya, 1948—1966, in: H. N. CHITTICK and R. I. ROTBERG (eds.), East Africa and the Orient, 237; Zanzibar, a large hoard of Chinese coins, seventh to thirteenth centuries, G. S. P. FREEMAN-GRENVILLE, NC 6 ser. 17 (1957), 164—165; five further Chinese coins from Zanzibar, J. WALKER, Some New Coins from Kilwa, NC 5 ser. 19 (1939), 225—226; Songa Mnara Island, excavations yielded Sung Ware, G. MATHEW, Recent Discoveries in East African Archaeology, Antiquity 27 (1953), 212; at Suk on Socotra island, P. L. SHINNIE, Antiquity 34 (1960), 105; see in general H. N. CHITTICK, East African Trade with the Orient, in: D. S. RICHARDS, Islam and the Trade of Asia, 98—99 on finds from Manda and Kilwa. In the interior Chinese imports appear only after the thirteenth century, see P. S. GARLAKE, The Value of Imported Ceramics in the Dating and Interpretation of the Rhodesian Iron Age, JAH 9.1 (1968), 16—22. The literary evidence for Chinese voyages to East African waters is summarized briefly by C. E. FRIPP, A Note on Mediaeval Chinese-African Trade, NADA 17 (1940), 88—96; IDEM, Chinese Mediaeval Trade with Africa, NADA 18 (1941), 12—22; see in detail on the Chinese sources P. WHEATLEY, Analecta Sino-Africana Recensa, in: H. N. CHITTICK and R. I. ROTBERG (eds.), East Africa and the Orient, 76—114.

In Southwestern Arabia Chinese celadon, stoneware and porcelain of the ninth to eleventh century have been found at Abyan, Kawdam-Saila and Ḥabīl in Aden, see A. LANE and R. B. SERJEANT, Pottery and Glass Fragments from the Aden Littoral, with Historical Notes, JRAS (1948), 123—126. In Oman an archaeological survey has revealed no Chinese imports earlier than the fourteenth century, see B. DE CARDI and D. B. DOE, E&W n.s. 21, 3/4 (1971), 260—264.

Chinese celadon and imitations of the same have been found in excavations at Kom el-Dikka in Alexandria, see J. LIPINSKA and H. RIAD, Trial Pits at Kom el-Dikka in Alexandria, ASAE 59 (1966), 107. The excavations at Fustat have also yielded a number of pieces of imitation Chinese celadon as well as genuine imports, see G. T. SCANLON, Egypt and China: Trade and Imitation, in: D. S. RICHARDS (ed.), Islam and the Trade of Asia (Oxford 1970), 81—95; IDEM, Fusṭāṭ Expedition: Preliminary Report 1968, JARCE 11 (1974), 90.

[1755] See the summary in M. ROGERS, China and Islam — The Archaeological Evidence in the Mashriq, in: D. S. RICHARDS (ed.), Islam and the Trade of Asia (Oxford 1970), 69—70 who notes that surprisingly little Chinese material from this period has been found in Soviet excavations in Central Asia. Some items which should perhaps have been cited are the numerous T'ang and Sung mirrors found at sites in the Minusinsk Basin, see E. LUBO-LESNICHENKO, Imported Mirrors in the Minusinsk Basin, Artibus Asiae 35 (1973), 30—34, 53—56. A Chinese mirror of the eleventh to twelfth century has been found at Kochkor in the Kirghiz SSR and another of the same date at Qunduz in Afghanistan, see W. TROUSDALE, A Chinese Handle-Bearing Mirror from Northern Afghanistan, Artibus Asiae 24 (1961), 11—19. Imitation T'ang Celadon was excavated at Shamshir Ghar in Afghanistan, see L. DUPREE, Shamshir Ghar: Historic Cave Site in Kandahar Province, Afghanistan, AnthroPap AMNH 46.2 (New York 1958), 194—195.

[1756] Some idea of the magnitude of the activity involved may be gained by a consideration of the number of artifacts: e. g. the Sarawak Delta complex (Jaong, Buah, Tonjung Kubor, Bongkissam, etc.) has produced hundreds of thousands of sherds of Chinese ceramics and stoneware of the T'ang and Sung periods, T. Harrisson and S. J. O'Connor, SMJ 16 (1968), 37; T. Harrisson, AP 13 (1970), 23 (in one year, 1955, at Bongkissam 49,393 fragments and whole Chinese vessels were found); R. Nyandoh and L. Chin, SMJ 17 (1969), 84 (almost 19,000 T'ang and Sung sherds and vessels from Gedong). See also A. Lamb, Takuapa: The Probable Site of a Pre-Malaccan Entrepôt in the Malay Peninsula, in: Malay and Indonesian Studies, 82—84, who stresses the large quantities of remains to be found at Kakhao Island and Pengkalan Bujang. At the latter site a six foot deep deposit of sherds and glass covers about an acre or more.

[1757] On the increased number of tribute missions to China in the seventh and eighth centuries, see Wang Gungwu, JMBRAS 31.2 (1958), 74—75, 119—123. The lists given indicate that 17 firmly dated missions are attested for the period A.D. 2—405 (Han, Wu and Chin Dynasties), 30 for the period 421—498 (Southern Dynasties), 98 for 502—793 (Southern Dynasties and T'ang). For lists of overland tribute missions during the T'o-pa period (A.D. 385—550) see W. Eberhard, Ankara Üniversitesi Yilliği 2 (1948), 146—177. In general on China's overseas commerce in this period see F. Hirth, Zur Geschichte des Orienthandels im Mittelalter, ChSt 1.25—29; P. Wheatley, Ch' ih-t' u (赤 土), JMBRAS 30.1 (1957), 122—133 specifically on relations with Indochina in the seventh century.

[1758] Two Chinese monks in particular stand out for the detailed description they have left of their travels: Fa-hien early in the fifth century went overland via Khotan to India, where he travelled about extensively before eventually returning to China by sea via Ceylon; see the translation of his written account by J. Legge, A Record of Buddhistic Kingdoms (Oxford 1886, repr. New York 1965); Hsüan-tsang made a similar journey in the first half of the seventh century, for his itinerary through the Tarim see A. Stein, La traversée du désert par Hiuan-Tsang, TP 2 ser. 20 (1921), 332—354; for his route through Gandhara see A. Foucher, Notes sur la géographie ancienne du Gandhara, BEFEO 1.4 (1901), 322—369. For voyages to Ceylon in the T'ang period, see the texts cited by S. Levi, JA (1900), 316—318, 401—440; L. Petech, Some Chinese Texts Concerning Ceylon, CHJ 3.3/4 (1954), 223—224; for overland relations between China and India see B. Prakash, Indo-Chinese Relations in the Seventh Century, JAIH 5.1/2 (1971/72), 1—26.

[1759] E. g. the reliefs of foreigners on a tomb from near Chang-te fu, see G. Scaglia, Central Asians on a Northern Ch'i Gate Shrine, Artibus Asiae 21 (1958), 9—28 who suggests a date in the sixth century and the identification of the foreigners as Sogdians. Cf. already the figurines of soldiers with occidental features found in a tomb of A.D. 299 at Lo-yang, Chiang Jo-shih and Kuo Wen-hsien, Lo-yang Chin mu ti fa-chueh, KKHP (1957), 1.169—185. For Persian merchants in T'ang literature, see E. H. Schafer, Iranian Merchants in T'ang Dynasty Tales, UCPSP 11 (1951), 403—422, cf. O. W. Wolters, BSOAS 23 (1960), 323—350 who has proposed identifying the *Po-ssu* of fourth to sixth century Chinese texts with Indonesian rather than Persian merchants, cf. E. H. Schafer, The Golden Peaches of Samarkand, 281 n. 50. For tenth century paintings of scenes from Fu-lin, see F. Hirth, Über die chinesischen Quellen zur Kenntnis Centralasiens unter der Herrschaft der Sassaniden etwa in der Zeit 500 bis 650, WZKM 10 (1896), 236—237. Perhaps most remarkable is a bilingual Middle Persian-Chinese inscription which was found near Ch'ang-an during excavations of a grave in 1955, see the text and commentary in J. Harmatta, The Middle Persian-Chinese Bilingual Inscription from Hsian and the Chinese-Sasanian Relations, in: La Persia nel Medioevo, 363—376.

[1760] It has been argued that South Indian pepper was first introduced into China in the T'ang period, so A. G. Quan, Piper nigrum, Linn, JSSS 8.1 (1952), 9—11; Idem, Piper betle, Linn, ibid., 14—15 who bases himself on literary texts. If these texts in fact reflect the real situation a rather late date is suggested for any sort of regular commerce between India and China; for the introduction of Indian pepper into China in the T'ang period see also E. H. Schafer, The Golden Peaches of Samarkand, 149—151; cf. also on the T'ang pepper trade O. W. Wolters, Early Indonesian Commerce, 135—136, 233—234.

[1761] On Persian merchants in Canton, see H. Hasan, Persian Navigation (London 1928), 97—98; cf. the Arabic sources collected in B. E. Bubler, Alte Arabische Berichte über den fernen Osten, AsSt 8 (1954), 51—69. For the sack of Canton in 758 by the *Po-see* and Arabs see Wang Gungwu, JMBRAS 31.2 (1958), 78—80, cf. also the same author's appendix on the Persian sea trade with China, ibid., 124—127; possibly the pirates who raided Canton were based on Hainan, so E. H. Schafer, The Vermilion Bird, T'ang Images of the South (Berkeley 1967), 28 and Idem, Shore of Pearls (Berkeley/London 1970), 84. On ownership of Chinese ships by Near Eastern merchants resident in China during the Sung period see Lo Jung-pang, Chinese Shipping and East-West Trade from the Tenth to the Fourteenth Century, in: M. Mollat (ed.), Sociétés, 168—170.
For evidence of Persian and Arab settlement in Southeast Asia (seventh to tenth centuries), see in general G. Ferrand, Review of B. Laufer, Sino-Iranica . . ., JA 11, ser. 18 (1921), 285—289, 291—293; B. E. Colless, Abr-Nahrain, 10 (1970/71), 104—117. A. Lamb suggests that the discovery of considerable quantities of Middle Eastern ceramics of low quality at Takuapa may indicate the presence of residents from that region, A. Lamb, FMJ n. s. 6 (1961), 75, n. 4.

[1762] D. B. Doe, JRAS (1963), 154.

[1763] Bambhore, sherds of Sasanian-Islamic ware: Excavations at Bambhore, PakArch 1 (1964), 51, 53—54.

[1764] Kilwa, Persian ware, N. Chittick, Kilwa: A Preliminary Report, Azania (1966), 10; Manda, neck of blue glass bottle very similar to glass produced at Siraf, D. Whitehouse, Iran 6 (1968), 14, 19; Unguja Ukuu, sherds of Sasanian-Islamic pottery, N. Chittick, Unguja Ukuu: the Earliest Imported Pottery and an Abhasid Dinar, Azania 1 (1966), 161—163. Chittick also reports (ibid.) the discovery of Sasanian-Islamic ware on the surface at Mkadini and Mbegani.

[1765] Takuapa and Pengkalan Bujang, Middle Eastern pottery and glass in considerable quantities, see A. Lamb, FMJ n. s. 6 (1961), 26, 36, 48—63, 75, 81—85.

[1766] For the Middle Eastern origin of the glass found at Borneo sites see above n. 1661 and T. Harrisson and S. J. O'Connor, Excavations of the Prehistoric Iron Industry in West Borneo, 2.262—264.

[1767] The oldest inscription of the kingdom of Srívijaya comes from Kedukan Bukit, see the text published by G. Coedès, Les inscriptions malaises de Çrívijaya, BEFEO 30 (1930), 33—41 and G. Ferrand, Quatre textes épigraphiques malayo-sanskrits de Sumatra et de Banka, JA 221 (1932), 272—275. The text is usually taken to refer to the founding of a capital of Srívijaya in A.D. 683, see R. Winstedt, A History of Malaya, JMBRAS 13.1 (1935), 23. Cf. more recently G. Coedès, A Possible Interpretation of the Inscription of Kedukan Bukit (Palembang), in: J. Bastin and R. Roolvink (eds.), Malayan and Indonesian Studies, 30—32 who suggests that the text commemorates a victorious campaign against the Khmer kingdom of Cambodia. For the location of Srivijaya see K. A. Nilakanta Sastri, Notes on the Historical Geography of the Malay Peninsula and Archipelago, JGIS 7.1 (1940), 18—23 (at Palembang).

[1768] Population expansion in Thailand in the late first millennium is indicated by a large increase in the number of sites. A similar conclusion is suggested by the decrease in deer bones in rubbish pits at the Chansen site possibly caused by a decrease in the forest cover and a concomitant increase in agriculture, B. Bronson and G. F. Dales, AP 15 (1972), 23, 44—45. It is also at this time that Burma, an area for which there is as yet no material evidence in the earlier period, first appears to play a role among the kingdoms of the Indian Ocean littoral. Little is known about this region before it attracts the attention of Chinese travellers in the seventh century and to date there has been little archaeological excavation done here: see G. H. Luce, A Century of Progress in Burmese History and Archaeology, JBRS 32.1 (1948), 79—90; Idem, The Ancient Pyu, JBRS

27.3 (1937), 239—240 (who traces references to the coming of Buddhism to the area back to the third century). The few known early copper and bronze artifacts from Burmese sites show no sign of Indian influence but do have similarities to Dongson material, T. O. MORRIS, Copper and Bronze Antiquities from Burma, JBRS 38.2 (1938), 95—96. The earliest inscriptions are two gold plates discovered in 1897 at Maunggan and palaeographically dated to the fifth or sixth century, see N.-R. RAY, Early Traces of Buddhism in Burma, JGIS 6.1 (1939), 41—44. The earliest dated Mon inscriptions come from the eleventh century, G. H. LUCE, Note on the Peoples of Burma in the 12th and 13th Century A.D., JBRS 42.1 (1959), 52—74. A survey of the recent work in the field appears in G. H. LUCE, Sources of Early Burma History, in: C. D. COWAN and O. W. WOLTERS (eds.), Southeast Asia History and Historiography. Essays presented to D.G.E. Hall (Ithaca 1976), 31—42. A summary of the results from recent Burmese excavations may be found in U. AUNG THAW, Historical Sites in Burma (Rangoon 1972), a copy of which I have been unable to obtain.

[1769] Buddhist bronzes of the fifth to sixth centuries have been found in tin mines at Pengkalen and Tanjong Rambutan and bronzes of a somewhat later date in mines at Bidor, Sungai Siput, all in Perak, H. G. Q. WALES, JMBRAS 18.1 (1940), 50—51; LAMB suggests that tin was mined in this period on the lower slopes of Kedah Peak, see A. LAMB, FMJ n. s. 6 (1961), 81—82. EVANS connected the discovery of iron pick-like implements known locally as *tulang mawas* found at Bengkong, Tanjong Rambutan, Klang, Sungkai, Sengat and Changkat Manteri with such mining activity, see I. H. N. EVANS, On Slab-Built Graves in Perak, JFMSM 12 (1928), 114—115; a site with a large ship-sized canal was found by EVANS near tin mines on the Sungai Batu Estate, Kedah, see I. H. N. EVANS, JFMSM 15 (1931), 43—44. Two T'ang earthenware jars were found at the site of the Tui gold mine, Lipis Dist., Pahang, see P. D. R. WILLIAMS-HUNT, JMBRAS 25.1 (1952), 183—184.

The rich Sambas find of gold and silver statuettes (Buddhas and Bodhisattvas) on Borneo also has been connected with the possible exploitation of the Sambas gold mines in the T'ang period, so Y. S. TAN, Preliminary Report on the Discovery of the Hoard of Hindu Religious Objects, Near Sambas, West Borneo, JSSS 5.1 (1948), 36. See also more generally T. HARRISSON, Gold and Hindu Influences in West Borneo, JMBRAS 22 (1949), 33—110. A very rich reliquary deposit was found in the excavation of a shrine at Bongkissam in the Sarawak Delta, cf. T. HARRISSON and S. J. O'CONNOR, SMJ 15 (1967), 208—213 who list 142 gold objects. For the contemporaneity of the arrival of Chinese ceramics and stoneware and the development of an iron extraction industry in the Sarawak Delta of Borneo see T. HARRISSON and S. J. O'CONNOR, SMJ 16 (1968), 1—54 and IDEM, Excavations of the Prehistoric Iron Industry in West Borneo, 266—276 where the authors note that there is as yet no explanation for the association of such massive quantities of Chinese stoneware with iron slag in the delta sites. See also the association of iron slag with gold at the same sites, IDEM, SMJ 16 (1968), 21—25. For a review of the evidence of gold mining or panning at Sarawak Delta sites see T. HARRISSON and S. J. O'CONNOR, SMJ 17 (1969), 1—41. Also 10 gold objects with similar ceramic associations at Gedong, see R. NYANDOH and L. CHIN, SMJ 17 (1969), 83. The large find of gold ornaments made at Limbang in Borneo in 1899 was long in private hands but is now fully published in T. HARRISSON, The Golden Hoard of Limbang, BMJ 1.1 (1969), 57—70.

It has been suggested that the large Chinese earthenware jars found in the Sarawak Delta and at Pengkalan Bujang in Kedah were used to transport mercury to China from cinnabar mines near both sites, see F. E. TRELOAR, Stoneware Bottles in the Sarawak Museum, Vessels for Mercury Trade?, SMJ 20 (1972), 377—384.

[1770] This is paralleled by the importance of metals such as iron, copper and tin among the objects of commerce in the ancient Near East, see L. OPPENHEIM, JCS 21 (1967), 240—242 noting all three metals in commercial texts from Uruk of 551 and 550 B.C. and UET V.796 which mentions 13,000 minas of copper from Dilmun (see above n. 1169). In general on the volume of the trade in metals see M. MEULEAU JESHO 8 (1965), 78.

[1771] Some of the documentary evidence for Indian Ocean trade in the Islamic period is discussed above n. 1746.

[1772] H. H. DUBS, A Roman City in Ancient China (London 1957).

[1773] For example J. NEEDHAM, Science and Civilization in China, 1.237; IDEM, 3.536—537; S. LIEBERMAN, Contact between Rome and China, 229—230; W. SAMOLIN, CAJ 4.1 (1958), 49 n. 19; H. H. SCULLARD, From the Gracchi to Nero (London 1963), 412 and most recently the hypothesis is accepted by J. FERGUSON, above pp. 599—601.

[1774] Cf. above n. 101 for theories which cite this westward movement as proof of the identity of the Hsiung-nu with the Huns.

[1775] H. H. DUBS, The Roman City in China, 6—15.

[1776] J. J. L. DUYVENDAK, An Illustrated Battle-Account in the History of the Former Han Dynasty, TP 34 (1938), 249—264.

[1777] Cf. the letter from DUBS published by J. J. L. DUYVENDAK, A Comment on an illustrated Battle-Account in 35 B.C., TP 35 (1939), 213—214.

[1778] H. H. DUBS, An Ancient Military Contact between Romans and Chinese, AJPh 62 (1941), 322—330; IDEM, A Military Contact between Chinese and Romans in 36 B.C., TP 2 ser. 36.1 (1948), 64—80.

[1779] H. H. DUBS, A Roman Influence upon Chinese Painting, CPh 38 (1943), 13—19. DUBS' view, expressed here and in the other papers, that Chinese painting (and the other arts) did not deal in contemporary themes from real life but only with mythological themes before 35 B.C. when the battle pictures were produced under Roman influence, can also be rejected. For example, the discovery of landscape scenes on two large hollow tiles from a tomb at Nan-kuan in Honan has considerably moved back the generally accepted date for the beginning of the realistic rendering of landscape scenes (in this case the pictures have the appearance of an illustrated map). Also important is a bronze *hu* with various scenes inlaid in silver depicting an archery contest, a hunt and a battle involving warships, see E. v. ERDBERG-CONSTEN, A Hu with Pictorial Decoration, Werner Jennings Collection, Palace Museum, Peking, ACASA 6 (1952), 23—24, figs. 5—6; for a date of c. 300 B.C. for this vessel see IDEM, Die Hui-hsien-Figuren und die Kunst der Spaten-Chou-Zeit, OE 2.1 (1955), 4—6.

[1780] HS 28B.2a; HHS 33.4b.

[1781] Cf. already on this passage K. SHIRATORI, The Geography of the Western Region Studied on the Basis of the Ta-ch'in Accounts, MTB 15 (1956), 87—88 (first published in 1930).

[1782] Enthusiastically hailed by B. SZCZESNIAK, JAOS 77.4 (1957), 286—287; cf. the rejection of much of this hypothesis by S. CAMMAN, JAS 21.3 (1962), 382.

[1783] Cf. J. J. L. DUYVENDAK, in: H. H. DUBS, TP 36.1 (1948), 79 n. 1 and 2 (editor's notes on DUBS' thesis).

[1784] YING-SHIH YÜ, Trade and Expansion, 89—91.

[1785] Cf. ibid., 91. An ethnological curiosity which may have some bearing on the Ch'ing scholar's statement is a report (apparently missed by all those involved in the discussion of DUBS' thesis) that even in this century the Moslems in some parts of Western China mistakenly claim descent from the Romans, see J. H. EDGAR, The Romans of the Szechwan Marches, JWCBRS 5 (1932), 26.

[1786] Cf. Horace, Odes III.5.5—12.

[1787] On the basis of Pliny NH VI.47.

[1788] For Crassus' levy of troops before his departure see Dio XXXIX.39.1. For his departure from Rome see Plutarch, Crassus 16; Appian, B.C. II.18; Velleius II.46.2—3; Dio XXXIX.39.2—7. On the reliability of the accounts of tribunician obstruction see A. D. SIMPSON, The Departure of Crassus for Parthia, TAPhA 69 (1938), 532—541.

[1789] W. W. TARN, GBI², 475—476.

[1790] For example see the aerial photograph of the fourth century B.C. site of Tchirik-rabat published by S. P. TOLSTOV, Iranica Antiqua 1 (1961), pl. XIII. Scythian forts frequently had such double walls, see F. HANCAR, in: Reinecke Festschrift, 78—79.

[1791] See the literature on this site above n. 116.

Bibliography

The bibliography presented below has no claims to thoroughness or completeness in regard to the areas surveyed in the preceding studies but represents only those materials (undoubtedly with some omissions) which I consulted while preparing the above. All Russian authors' names, titles and terms (except where another transliteration has become commonly accepted) are transliterated according to the Library of Congress System with omission of the diacritical marks. For Chinese I have attempted to apply as consistently as possible the older Wade-Giles system of romanization rather than the 'Hanyu pinyin' used in the CPR and now widely adopted in the West.

I. Secondary Literature

ANONYMOUS, Excavations at Bambhore, PakArch 1 (1964), 49—55.

ANONYMOUS, Hoards of Ancient Roman Coins Found in Egypt, Numismatist 38. 9 (Sept. 1925), 448.

EL-ABBADI, MOSTAFA, The Edict of Tiberius Julius Alexander, Remarks on its Nature and Aim, BIFAO 65 (1967), 215—226.

ABDUL-HAK, S., Les verres peints de la période romaine, conservés au Musée National de Damas, AAS 15 (1965), 13—24.

ABDURAZAKOV, A. A., BEZBORODOV, M. A., and ZADNEPROVSKII, I. and A., Steklodelie Srednei Azii v Drevnosti i Srednevekov'e (Tashkent 1963).

ABDURAZAKOV, A. A., Medieval Glasses from the Tashkent Oasis, JGS 11 (1969), 31—36.

ABRAMISHVILI, T. IA., Katalog parfianskikh monet, Gosudarstvennogo museia Gruzii (Tbilisi 1974).

ACHARYA, P., Ancient Coins from Mayurbhanj, JNSI 2 (1940), 123—126.

ACKERMAN, P., A Sassanian Tapestry, BAIPAA 4.1 (1935), 3—4.

ACKERMAN, P., Textiles through the Sāsānian Period, in: A. J. POPE and P. ACKERMAN (eds.), A Survey of Persian Art, vol. 2 (London 1938), 681—715.

ACKERMAN, P., Early Textile Production in China, BNBC 30, 1/2 (1946), 59—70.

ACKERMAN, P., An Unpublished Sasanian Silk, BII 6.1/4—7.1 (1946), 42—50.

ACKERMAN, P., Some Mediaeval Silks from the Caspian Provinces of Iran, BNBC 39, 1/2 (1955), 30—46.

ADAMS, R. McC., Land Behind Baghdad. A History of Settlement on the Diyala Plains (Chicago 1965).

ADAMS, R. McC., and NISSEN, H. J., The Uruk Countryside. The Natural Setting of Urban Societies (Chicago/London 1972).

ADAMS, W. Y., Continuity and Change in Nubian Cultural History, SNR 48 (1967), 1—32.

ADAMS, W. Y., Post-Pharaonic Nubia in the Light of Archaeology, I, JEA 50 (1969), 102—120.

ADDIS, J. M., Chinese Porcelain Found in the Philippines, TOCS 37 (1967/69), 17—35.

ADDISON, F., Second Thoughts on Jebel Moya, Kush 4 (1956), 4—18.

ADLER, M. N., The Itinerary of Benjamin of Tudela (London 1907).

ADRIANI, A., La Necropole de Moustafa Pacha, AMGRA (1933/35), (Alexandria, 1936).

Adriani, A., Segnalazioni Alessandrine: Le Scoperte di Begram e l'Arte Alessandrina, Arch. Class. 7 (1955), 124—138.

Adshead, S., China and Central Asia, in: China and its Place in the World (Auckland, N.Z. 1967), 11—25.

Aggoula, B., Remarques sur les inscriptions Hatréennes, Berytus 18 (1969), 85—104.

Agravamuthan, T. G., The Chakerbedha Find of Two Aurei, JNSI 7 (1945), 6—10.

Agravamuthan, T. G., Notes on Punch-Marked Purānas, JNSI 10 (1948), 1—16.

Agrawala, R. C., Land and Agriculture as Depicted in the Kharosṭhi Documents from Chinese Turkestan, PIHC 15 (1952), 102—107.

Agrawala, R. C., Position of Slaves and Serfs as Depicted in the Kharosṭhi Documents from Chinese Turkestan, IHQ 29. 2 (1953), 97—110.

Agrawala, R. C., Form of Taxation as Depicted in the Kharosṭhi Documents, IHQ 29. 4 (1953), 340—353.

Agrawala, R. C., A Study of Textiles and Garments as Depicted in the Kharoshṭhi Documents from Chinese Turkestan, Bhāratīya Vidyā 14 (1953), 75—94.

Agrawala, R. C., Greek Stater in Ancient Indian Epigraphs and Literature, JNSI 15 (1955), 153—154.

Agrawala, R. C., Food and Drink as Depicted in the Kharosṭhi Documents from Central Asia, JOIB 4 (June 1955), 338—349.

Agrawala, R. C., Numismatic Data in the Kharoshṭhi Documents from Chinese Turkestan, JNSI 14 (1955), 103—106.

Agrawala, R. C., Deputation of Ambassadors as Depicted in the Kharosṭhi Documents from Chinese Turkestan, JGIS 15 (1956), 133—137.

Agrawala, R. C., Epithets and Titles of Rulers as Depicted in the Kharosṭhi Documents from Chinese Turkestan, JUB n.s. 24 (Jan. 1956), 1—5.

Agrawala, R. C., Numismatic Data in the Niya Kharoshṭhi Documents from Central Asia, JNSI 16 (1956), 219—230.

Agrawala, R. C., Coins, Weight and Measures in the Bakhshālī Manuscript, JNSI 16 (1956), 231—235.

Agrawala, R. C., Interesting Kuṣāṇa Terracottas and Sculptures from Rajasthan, IHQ 38. 4 (1962), 260—266.

Agrawala, R. C., An Interesting Relief from the Swat Valley, E & W n.s. 16. 1/2 (1966), 82—83.

Agrawala, R. C., Scribes in Kharosṭhi Documents from Chinese Turkestan, Bharati 10—11 (1966/68), 123—124.

Agrawala, R. C., Early Local Coins from Rajasthan, in: A. K. Narain (ed.), Seminar Papers on the Local Coins of Northern India ca. 300 B.C. to 300 A.D., Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 2 (Varanasi 1968), 23—28.

Agrawala, V. S., India Represented on a Silver Dish from Lampsacos, JUPHistS 16. 2 (1943), 3—6.

Agrawala, V. S., Prati as the Name of a Coin, JNSI 7 (1945), 32—35.

Agrawala, V. S., A Coin of Kanishka with the Figure of the Buddha, JNSI 8 (1946), 61—62.

Agrawala, V. S., Coin Names in the Angavijja, JNSI 19.1 (1952), 20—31.

Agrawala, V. S., A Kushāṇa Coin-Mould from Rohtak, JNSI 17 (1953), 68—69.

Agrawala, V. S., References to Textiles in Bana's Harshacharita, JITH 4 (1959), 65—68.

Agrawala, V. S., Coin Data in the Divyāvadāna, INC 3.2 (1964), 144—150.

Ahmad, N., On the Historicity of Rāmagupta, IHQ 38.4 (1962), 283—291.

Ahmad, N., The Bearing of Archaeological Evidence from Maheshwar on the Chronology of Punch-marked Coins, in: A. K. Narain and L. Gopal (eds.), Seminar Papers on the Chronology of the Punch-marked Coins, Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 1 (Varanasi 1966), 48—50.

Ahmad, N., The Bearing of Taxila Hoards on the Chronology of the Punch-marked Coins, in: A. K. Narain and L. Gopal (eds.), Seminar Papers on the Chronology of the Punch-marked Coins, Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 1 (Varanasi 1966), 86—111.

Ahmad, N., The Bearing of Archaeology on the Date of the Punch-marked Coins, in: A. K. Narain and L. Gopal (eds.), Seminar Papers on the Chronology of the Punch-marked

Coins, Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 1 (Varanasi 1966), 148—150.

AHMAD, N., The Bearing of Local Coins on the History of North-Western India, in: A. K. NARAIN (ed.), Seminar Papers on the Local Coins of Northern India ca. 300 B.C. to 300 A.D., Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 2 (Varanasi 1968), 179—181.

AHMAD, N., On the Local Coins of the Maheshwar and Navadatoli Excavations, in: A. K. NARAIN (ed.), Seminar Papers on the Local Coins of Northern India ca. 300 B.C. to 300 A.D., Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 2 (Varanasi 1968), 89—94.

AHMAD, N., The Bearing of Excavation on the Chronology of Local Coins of Taxila, in: A. K. NARAIN (ed.), Seminar Papers on the Local Coins of Northern India ca. 300 B.C. to 300 A.D., Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 2 (Varanasi 1968), 185—187.

AICHELE, W., Eine neu erschlossene frühindonesische Literatursprache in ihrem Einfluß auf das Altjavanische, ZDMG 90 (1936), *18*—*19*.

ÅKERBLOM, K., Astronomy and Navigation in Polynesia and Micronesia. A Survey, Stockholm Ethnographical Museum, Monograph no. 14 (Stockholm 1968).

AKERMAN, J. Y., Gold Roman Coins Found in India, NC 1 ser. 5 (1842—1843), 202.

AKERMAN, J. Y., Discovery of Silver Denarii of Coimbetoor, NC 1 ser. 6 (1843—1844), 111—112.

AKERMAN, J. Y., Roman Coins Found in Southern India, NC 1 ser. 6 (1844), 160—163.

AKISHEV, K. A., and KUSHAEV, G. A., Drevniaia Kultura Sakov i Usunei Doliny Reki Ili (Alma-Ata 1963).

ALBION, R. G., Forests and Sea Power: The Timber Problem of the Royal Navy 1652—1826 (Cambridge, Mass. 1926).

ALBRIGHT, W. F., A Biblical Fragment from the Maccabaean Age: The Nash Papyrus, JBL 56 (1937), 145—176.

ALBRIGHT, W. F., Cilicia and Babylonia under the Chaldaean Kings, BASOR 120 (Dec. 1950), 22—25.

ALBRIGHT, W. F., The Chronology of Ancient South Arabia in the Light of the First Campaign of Excavation in Qataban, BASOR 119 (Oct. 1950), 5—15.

ALBRIGHT, W. F., The Chaldean Inscriptions in Proto-Arabic Script, BASOR 128 (1952), 39—45.

ALBRIGHT, W. F., The Chronology of the Minaean Kings of Arabia, BASOR 129 (Feb. 1953), 20—24.

ALBRIGHT, W. F., From South Arabia, Archaeology 7.4 (1954), 254.

ALBRIGHT, W. F., A Note on Early Sabaean Chronology, BASOR 143 (1956), 9—10.

ALBRIGHT, W. F., Zur Chronologie des Vorislamischen Arabien, in: H. FRANKE (ed.), Akten des XXIV. Int. Orientalisten-Kongresses (Munich 1957), 153—155.

ALBRIGHT, W. F., Zur Chronologie des vorislamischen Arabien, in: J. HEMPEL and L. ROST (eds.), Von Ugarit nach Qumran, Otto-Eissfeldt-Festschrift (Berlin 1961), 1—8.

ALECU, M. D., and FRANKE, P. R., Der römische Münzfund von Dillingen-Pachten 1968, 16. Bericht der staatlichen Denkmalpflege im Saarland, Beiträge zur Archäologie und Kunstgeschichte (Saarbrücken 1969), 141—163.

ALEKSEEV, V. P., Paleontropologiia Altae-Saiaskogo Nagor'ia Epokhi Neolita i Bronzy, TIE 71 (Moscow/Leningrad 1961).

ALEKSEEVA, E. M., and ARSEN'EVA, T. M., Steklodelie Tanaisa, SA (1966), 2. 176—188.

ALFÖLDI, A., Die Hauptereignisse der Jahre 253—261 n. Chr. im Orient im Spiegel der Münzprägung, Berytus 4 (1937), 41—68.

ALFÖLDI, A., Die monarchische Repräsentation im römischen Kaiserreiche (Darmstadt 1970).

ALFÖLDY, G., Patrimonium Regni Norici, BJ 170 (1970), 163—177.

ALFÖLDY, G., The Crisis of the Third Century as Seen by Contemporaries, GRBS 15.1 (1974), 89—111.

ALFÖLDI, M. R., Zur Constantinischen Goldprägung, HBN 18/19 (1964/65), 131—142.

ALLAN, J., Cambridge Shorter History of India (Cambridge 1934).

Allan, J., Indian Coins Acquired by the British Museum, NC 5 ser. 14 (1934), 229—243.

Allan, J., Catalogue of Indian Coins in the British Museum. The Coins of Ancient India (London 1936).

Allchin, F. R., The Culture Sequence of Bactria, Antiquity 31 (1957), 131—141.

Allchin, F. R., Piklihal Excavations, Andhra Pradesh Government Archaeological Series no. 1 (Hyderabad 1960).

Allchin, F. R., Upon the Antiquity and Methods of Gold Mining in Ancient India, JESHO 5 (1962), 195—211.

Allchin, F. R., An Inscribed Weight from Mathurā, JESHO 7.2 (1964), 201—205.

Allchin, F. R., Archaeology and the Date of Kaniṣka: The Taxila Evidence, in: A. L. Basham (ed.), Papers on the Date of Kaniṣka (Leiden 1968), 4—34.

Allchin, F. R., Dilmun and the Gulf of Cambay, Antiquity 43 (1969), 315—317.

Allchin, F. R., A Piece of Scale Armour from Shaikhān Dherī, Chārsada (Shaikhān Dherī Studies I), JRAS (1970), 113—120.

Allen, J. de V., Swahili Culture Reconsidered: Some Historical Implications of the Material Culture of the Northern Kenya Coast in the Eighteenth and Nineteenth Centuries, Azania 9 (1974), 105—135.

Allen, J. W. T., Rhapta, TNR 27 (1944), 52—59.

Alliot, M., La Thebaïde en lutte contre les rois d'Alexandrie sous Philopater et Épiphane 216—184, RBPh 29 (1951), 421—443.

Alliot, M., La fin de la résistance égyptienne dans le sud sous Épiphane, REA 54 (1952), 18—26.

Allotte de la Fuÿe, F.-M., Monnaies incertaines de la sogdiane et des contrées voisines, RN 4 ser. 14 (1910), 281—333.

Allotte de la Fuÿe, F.-M., Les Monnaies de l'Élymaide, RN 4 ser. 22 (1919), 45—84.

Allotte de la Fuÿe, F.-M., Les monnaies de l'Élymaide, modifications au classement proposé en 1907, RN 4 ser. 22 (1922), 45—84.

Allotte de la Fuÿe, F.-M., Inventaire sommaire des monnaies recueillies à Suse pendant la campagne 1926—1927, MDP 20 (1928), 47—63.

Almagro, M., Caro, R. B., Garcia-Guinea, M. A., Velo, F. P., Catalan, M. P., and Teixidor, J., Excavations by the Spanish Archeaological Mission in the Sudan, 1962—1963 and 1963—1964, Kush 13 (1965), 78—95.

Almgren, B., Geographical Aspects of the Silk Road Especially in Persia and East Turkestan, BMFEA 34 (1962), 93—106.

Alt, A., Die Meilenzählung an der römischen Straße Antiochia–Ptolemais, ZDPV 51.4 (1928), 253—264.

Alt, A., Aus der 'Araba III: Inschriften und Felszeichnungen, ZDPV 58 (1935), 60—74.

Alt, A., Stationen der römischen Hauptstraße von Ägypten nach Syrien, ZDPV 70 (1954), 154—166.

Altekar, A. S., Some Remarks on the Coins of the Andhra Period, JNSI 1 (1939), 13—16.

Altekar, A. S., The Relative Prices of Metals and Coins in Ancient India, JNSI 2 (1940), 1—13.

Altekar, A. S., New Kings and Interesting Coin Types from Kausambi, JNSI 4 (1942), 1—16.

Altekar, A. S., Some Interesting Satavahana Coins, JNSI 4 (1942), 25—28.

Altekar, A. S., Further New Coins from Kausambi, JNSI 4 (1942), 133—145.

Altekar, A. S., Some Alleged Nāga and Vākāṭaka Coins, JNSI 5 (1943), 111—134.

Altekar, A. S., Chinese Coins from Tanjore, JNSI 7 (1945), 102.

Altekar, A. S., New and Interesting Coins and Seal from Madhyadesa (U. P.), JNSI 8 (1946), 7—14.

Altekar, A. S., Kasarwad Hoard of 'Ujjain' Coins, JNSI 8.2 (1946), 99—106.

Altekar, A. S., A New Silver Coin of Gantamiputra, JNSI 8.2 (1946), 111—113.

Altekar, A. S., A New (Kosala ?) Variety of Silver Punch-Marked Coins, JNSI 9.1 (1947), 1—5.

Altekar, A. S., A New Specimen of the Bow-in-Bow-Case Type of Maues, JNSI 9.1 (1947), 11—13.

Altekar, A. S., Some New Hermaios-Kujula Kadphises Coins, JNSI 9.1 (1947), 6—10.

ALTEKAR, A. S., A New Type of Kushanano-Roman Coin, JNSI 10.1 (1948), 77.

ALTEKAR, A. S., New Satavahana Coins, JNSI 10.1 (1948), 76.

ALTEKAR, A. S., A Unique Kushano-Roman Gold Coin of King Dharmadamadhara (?), JNSI 12.1 (1950), 1—4.

ALTEKAR, A. S., Buxar Hoard of Kushana Coins, JNSI 12.2 (1950), 121—123.

ALTEKAR, A. S., Coins of Kumrahar and Bulandibag (Pataliputra) Excavations in 1912—1913, JNSI 13.2 (1951), 144—147.

ALTEKAR, A. S., Twelve Forged Silver Coins of the Kushaṇas, JNSI 14.1 (1952), 34—40.

ALTEKAR, A. S., A Golden Amulet Imitating a Coin of Huvishka, JNSI 20.1 (1958), 1—3.

ALTEKAR, A. S., Some New Coins from Kauśambi, JNSI 20.2 (1958), 144—152.

ALTEKAR, A. S., A Knotty Problem Connected with the Coinage of Azes, in: H. INGHOLT (ed.), CPANS (New York 1958), 45—51.

ALTHEIM, F., Weltgeschichte Asiens im griechischen Zeitalter, 2 vols. (Halle 1947).

ALTHEIM, F., Awestische Textgeschichte, Hallische Monographien, herausgegeben von OTTO EISSFELDT, Nr. 9 (Halle 1949).

ALTHEIM, F., Der Hellenismus in Mittelasien, Saeculum 1 (1950), 280—305.

ALTHEIM, F., Geschichte der Hunnen, 5 vols. (Berlin 1959—1962).

ALTHEIM, F., and STIEL, R., Das erste Auftreten der Hunnen. Das Alter der Jesaja-Rolle. Neue Urkunden aus Dura-Europos (Baden-Baden 1953).

ALTHEIM, F., and STIEHL, R., Finanzgeschichte der Spätantike (Frankfurt a. Main 1957).

ALTHEIM, F., and STIEHL, R., Supplementum Aramaicum. Aramäisches aus Iran (Baden-Baden 1957).

ALTHEIM, F., and STIEHL, R., The Greek-Aramaic Bilingual Inscription of Kandahār and its Philological Importance, E&W n. s. 10.4 (1959), 243—260.

ALTHEIM, F., and STIEHL, R., Zwei neue Inschriften. Die aramäische Fassung der Aśoka-Bilinguis von Kandahar, AAntHung 7 (1959), 107—126.

ALTHEIM, F., and STIEHL, R., Die Datierung des Königs 'Ezānā von Aksum, Klio N.F. 39 (1961), 234—248.

ALTHEIM, F., and STIEHL, R., Die Araber in der Alten Welt, 5 vols. (Berlin 1964—1969).

ALTHEIM, F., and STIEHL, R., Die Seleukideninschrift aus Failaka, Klio N.F. 46 (1965), 273—281.

ALTHEIM, F., and STIEHL, R., Zeit und Sprache Kaniškas, in: F. ALTHEIM and J. REHORK (eds.), Der Hellenismus in Mittelasien (Darmstadt 1969), 432—452.

ALTHEIM, F., and STIEHL, R., Geschichte Mittelasiens im Altertum (Berlin 1970).

ALTHEIM, F., and STIEHL, R., Die Handelsstraße von Lagmān nach Tadmor (Die neue aramäische Inschrift Aśokas aus Lagman), Klio N.F. 54 (1972), 61—66.

ALY, W., Strabon von Amaseia, Antiquitas R. 1, Bd. 5 (Bonn 1957).

AL'BAUM, L. I., Buddiiskii khram v doline Sanazara, DANUzSSR (1955), 8. 57—60.

AL'BAUM, L. I., Balalyk-Tepe. K istorii material'noi kul'tury i iskusstva Tokharistana (Tashkent 1960).

AMAND, M., and EYKENS-DIERICKX, I, Tournai Romain, Diss. Arch. Gandenses 5 (Brugge 1951).

AMIN, M. A., Ancient Trade and Trade Routes between Egypt and the Sudan, 4000 to 200 B. C., SNR 51 (1970), 23—30.

AMIT, M., Les Moyens de Communication et la Defense de l'Empire Romain, PP 102 (1965), 207—222.

AN, CHIN-MIN, The *Chin Pan* and *Chin Ping* Coins — A Study of the Gold Coins of the State of Ch'u and the Han Dynasty and some Related Problems, KKHP (1972), 2. 21—90.

ANDERSON, J. G. C., The Policy of Nero in the South-East and the North-East, CAH 10 (Cambridge 1934, repr. 1954), 880—884.

ANDERSSON, J. G., The Goldsmith in Ancient China, BMFEA 7 (1935), 1—37.

ANDRÉ, J., Virgile et les Indiens, REL 27 (1949), 157—163.

ANDRÉ, J., Murrina, Vin Myrrhé, AFLA 25 (1951), 45—62.

ANDRÉ, J., Lexique des Termes de Botanique en Latin, Études et Commentaires 23 (Paris 1956).

ANDRÉ, J., L'alimentation et la cuisine à Rome, Études et Commentaires 38 (Paris 1961).

ANDRÉADÈS, A., Antimène de Rhodes et Cléomène de Naucratis, BCH 53 (1929), 1—18.

ANDRÉADÈS, A., Des droits de douane prélevés par les Lagides sur le commerce extérieur, in: Mélanges Gustave Glotz I (Paris 1932), 7—41.

ANDREAS, F. C., Erklärung der aramäischen Inschrift von Taxila (Aus dem Nachlaß herausgegeben von H. A. WINKLER), GöttNachr (1931), 6—17.

ANDREOTTI, R., Su alcuni problemi del rapporto fra politica di sicurezza e controllo del commercio nell'impero romano, RIDA 3 ser. 16 (1969), 215—257.

ANDREWS, A. C., Marjoram as a Spice in the Classical Era, CPh 56.2 (1961), 73—82.

ANDREWS, F. H., Ancient Chinese Figured Silks Excavated by Sir Aurel Stein, BurlMag 37 (1920), 3—10, 73—77, 147—152.

ANDREWS, F. H., Catalogue of Wall-Paintings from Ancient Shrines in Central Asia and Seistan Recovered by Sir Aurel Stein (Delhi 1933).

ANDREWS, F. H., Wall-Paintings from Ancient Shrines in Central Asia Recovered by Sir Aurel Stein (London 1948).

ANFIMOV, N. V., Denezhnoe obrashshenie na Elisavetinskom gorodishche-emporii Bospora na Snednei Kubani, VDI (1966), 2. 157—165.

ANFRAY, F., Une campagne de fouilles à Yĕhā (Février—Mars 1960), Annales d'Éthiopie 5 (1963), 171—232.

ANFRAY, F., and ANNEQUIN, G., Matara. Deuxième, troisième et quatrième campagnes de fouilles, Annales d'Éthiopie 6 (1965), 49—86.

ANFRAY, F., La poterie de Matara, RSE 22 (1966), 5—74.

ANFRAY, F., Maṭarā, Annales d'Éthiopie 7 (1967), 33—88.

ANFRAY, F., Les rois d'Axoum d'après la numismatique, JES 6 (1968), 1—5.

ANFRAY, F., Aspects de l'archéologie éthiopienne, JAH 9.3 (1968), 345—366.

ANFRAY, F., CAQUOT, A., and NAUTIN, P., Une nouvelle inscription grecque d'Ezana, Roi d'Axoum, JS (1970), 260—273.

ANFRAY, F., L'archéologie à Axoum en 1972, Paideuma 18 (1972), 60—76.

ANKLESARIA, B. T., The Pahlavi Inscriptions on the Crosses in Southern India, JCOI 39 (1958), 64—107.

ANSARI, Z. D., and MATE, M. S., Excavations at Dwarka, 1963, Deccan College Building Centenary and Silver Jubilee Series 44 (Paana 1960).

ANZANI, A., Numismatica Axumita, RIN 3 ser. 3 (1926), 5—110.

ANZANI, A., Numismatica e storia d'Etiopia: Note bibliografiche e nuove osservazioni di numismatica Axumita, RIN 3 ser. 5/6 (1928/1929), 5—67.

ANZANI, A., Le monete dei re di Aksum, RIN 4 ser. 43 (1941), 81—99.

AQUIQUE, M., Economic History of Mithila (c. 600 B.C.—1097 A.D.), (New Delhi 1974).

ARAVAMUTHAN, T. G., A Pāṇḍyan Issue of Punch-marked Purānas, JNSI 6 (1944), 1—4.

ARAVAMUTHAN, T. G., The Chakerbedha Find of Two Aurei, JNSI 7 (1945), 6—10.

ARAVAMUTHAN, T. G., Notes on Punch-Marked Purāṇas, JNSI 10 (1948), 1—16.

ARKELL, A. J., A Roman Coin of the Emperor Diocletian at El-Obeid, SNR 16 (1933), 7.

ARKELL, A. J., Cambay and the Bead Trade, Antiquity 10 (1936), 292—305.

ARKELL, A. J., Cosmas and the Gold Trade of Fazogli, Man (Jan.-Feb. 1944), art. no. 24, 30—31.

ARKELL, A. J., Meroe and India, in: W. F. GRIMES (ed.), Aspects of Archaeology in Britain and Beyond. Essays Presented to O.G.S. Crawford (London 1951), 32—38.

ARKELL, A. J., Archaeology South of Khartoum, in: R. A. HAMILTON (ed.), History and Archaeology in Africa. Report of a Conference held in July 1953 at the School of Oriental and African Studies (London 1955), 70—72.

ARKELL, A. J., Ancient Red Glass at University College, London, JEA 43 (1957), 110.

ARKELL, A. J., A History of the Sudan. From the Earliest Times to 1821^2 (London 1961).

ARKELL, A. J., The Iron Age in the Sudan, CA 7.4 (1966), 451—452.

ARMSTRONG, F. H., The Ihnasyah Hoard Re-examined, Phoenix 19 (1965), 51—60.

ARNOLD, R., A Port of Trade: Whydah on the Guinea Coast, in: K. POLANYI, C. M. ARENSBERG and H. W. PEARSON (eds.), Trade and Market in the Early Empires (New York 1957), 154—176.

ARNOLD, R., Separation of Trade and Market: Great Market of Whydah, in: ibid. 177—187.

ASHTON, L., A New Group of Sassanian Textiles, BurlMag 66 (1935), 26—30.

Ashton, L., and Gray, B., Chinese Art (London 1935).

Ashton, T. S., The Relation of Economic History to Economic Theory, Economica (1946), 81—96.

Ashtor, E., The Venetian Supremacy in Levantine Trade: Monopoly or Pre-Colonialism, JEEH 3.1 (1964), 5—53.

Ashtor, E., Profits from Trade with the Levant in the Fifteenth Century, BSOAS 38.2 (1975), 250—275.

Auboyer, J., Des fouilles en Afghanistan, aux Indes et en Cochinchine prouvent un intense trafic entre Méditerranée et Extrême-Orient aux premiers siècles de notre ère, RGHE 1. 2 (1948), 101—102.

Auboyer, J., La vie privée dans l'Inde ancienne d'après les ivoires de Begram, in: J. Hackin (ed.), Nouvelles recherches archéologiques à Begram, MDAFA 11 (Paris 1954), 59—82.

Auboyer, J., Rencontre de trois civilisations au cœur de l'Asie: Grèce, Inde et Chine, Antiquity and Survival 1. 6 (1955/1956), 447—457.

Auboyer, J., Private Life in Ancient India as Seen from the Ivory Sculptures of Begram, Marg 24.3 (1971), 47—54.

Audouin, R., and Bernard, P., Trésor de monnaies indiennes et indogrecques d'Ai Khanoum (Afghanistan), RN 6 ser. 15 (1973), 238—289.

Aurigemma, S., L'Elefante di Leptis Magna e il Commercio dell'Avoria e delle 'Ferae Libycae, negli Emporia Tripolitani, Africa Italiana 7 (1940), 67—86.

Aurousseau, L., La première conquête des pays annamites, BEFEO 22 (1922), 137—264.

Avigad, N., A Depository of Inscribed Ossuaries in the Kidron Valley, IEJ 12.1 (1962), 1—12.

Avi-Yonah, M., Newly Discovered Latin and Greek Inscriptions, QDAP 12 (1945/46), 84—102.

Avi-Yonah, M., The Development of the Roman Road System in Palestine, IEJ 1 (1950—1951), 54—60.

Avi-Yonah, M., The Economics of Byzantine Palestine, IEJ 8 (1958), 39—51.

Avi-Yonah, M., Scythopolis, IEJ 12.2 (1962), 123—134.

Avi-Yonah, M., The Epitaph of T. Mucius Clemens, IEJ 16.4 (1966), 258—264.

Avi-Yonah, M., A New Dating of the Roman Road from Scythopolis to Neapolis, IEJ 16.1 (1966), 75—76.

Avi-Yonah, M., Lucius Valerius Valerianus, Governor of Syria-Palaestina, IEJ 16.2 (1966), 135—141.

Ayers, J., Chinese Glass, TOCS 35 (1963/64), 17—27.

Azarpay, G., Some Classical and Near Eastern Motifs in the Art of Pazyryk, Artibus Asiae 22 (1959), 313—339.

Babaev, I. A., and Kaziiev, C. M., Kabalinskii klad monet ellenisticheskoi epokhi, NE 9 (1971), 16—32.

Bachhofer, L., Herrscher und Münzen der späten Kushanas, JAOS 56 (1936), 429—439.

Bachhofer, L., On Greeks and Sakas in India, JAOS 61 (1941), 223—250.

Badian, E., Roman Imperialism in the Late Republic² (Ithaca 1968).

Badian, E., A. Degrassi, Corpus Inscriptionum Latinarum, Auctarium. Inscriptiones Latinae Liberae Rei Publicae: Imagines, JRS 58 (1968), 240—249.

Badian, E., Sulla's Cilician Command, in: Idem, Studies in Greek and Roman History (Oxford 1968), 157—178.

Badian, E., Publicans and Sinners (Oxford 1972).

Bacharach, J. L., and Gordus, A.A., The Purity of Sasanian Silver Coins: An Introduction, JAOS 92.2 (1972), 280—283.

Bagchi, P. C., Chinese Coins from Tanjore, SIS 1.1 (1944), 60—63.

Bagchi, P. C., Ki-pin and Kashmir, SIS 2.1 (1946), 42—53.

Bagchi, P. C., Report on a New Hoard of Chinese Coins, SIS 4. 3/4 (1953), 194—196.

Bagnall, R. S., Some Notes on P. Hib. 198, BASP 6 3—4 (1969), 73—118.

Bagnall, R. S., and Drew-Bear, T., Notes on the History of Kourion, CE 49 (1974), 179—195.

Bagnall, R. S., The Roman Garrison of Latopolis, BASP 12. 4 (1975), 135—144.

Bagnall, R. S., and Bogaert, R., Orders for Payment from a Banker's Archive: Papyri in the Collection of Florida State University, AncSoc 6 (1975), 79—108.

Bahat, D., A Roof Tile of the *Legio VI Ferrata* and Pottery Vessels from Horvat Ḥazon, IEJ 24.3 (1974), 160—169.

Bahrfeldt, M. von, Die Römische Goldmünzenprägung während der Republik und unter Augustus (Halle 1923).

Bailey, D. R. S., Propertiana (Amsterdam 1967).

Bailey, H. W., Kanaiska, JRAS (1942), 14—28.

Bailey, H. W., Zoroastrian Problems in the Ninth Century Books (Oxford 1943).

Bailey, H. W., Caucasica, JRAS (1943), 1—5.

Bailey, H. W., The Khotan Dharmapada, BSOAS 11.3 (1945), 488—512.

Bailey, H. W., Gāndhārī, BSOAS 11.4 (1946), 764—797.

Bailey, H. W., The New Iranian Material from Turkestan, JCOI 39 (1958), 119—136.

Bailey, H. W., Tokharika, JRAS (1970), 121—122.

Bailey, H. W., Saka Studies: The Ancient Kingdom of Khotan, Iran 8 (1970), 65—72.

Bailey, H. W., Indian *Sindhu-*, Iranian *Hindu-*, BSOAS 38.3 (1975), 610—611.

Baillet, J., Les tapisseries d'Antinoé au musée d'Orléans (Orléans 1907).

Baillet, J., Inscriptions grecques et latines des tombeaux des rois aux Syringes à Thèbes, 2 vols., Mém. IFAO 42 (Cairo 1923—1926).

Bairoch, P., Geographical Structure and Trade Balance of European Foreign Trade from 1800 to 1970, JEEH 3.3 (1974), 557—595.

Bajpai, K. D., Authority of Minting Coins in Ancient India, JNSI 25.1 (1963), 17—21.

Bajpai, K. D., The Joint Issues of the Kshatrapas Aagana and Hagamasha, JNSI 25.1 (1963), 102—103.

Bajpai, K. D., The Mitra Coins of Northern India and the Problem of 'Pusyamitra', INC 4.2 (1965), 127—134.

Bajpai, K. D., The Chronological Sequence of the Punch-marked Coins of Eran, in: A. K. Narain and L. Gopal (eds.), Seminar Papers on the Chronology of the Punch-marked Coins, Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 1 (Varanasi 1966), 46—47.

Bajpai, K. D., Some Problems of Ancient Indian History (c. 200 B.C.—600 A.D.), BAIHA 1 (1967), 1—6.

Bajpai, K. D., Yaudheya Coins — a Critical Study, JNSI 35 (1973), 90—94.

Balazs, E., La crise sociale et la philosophie politique à la fin des Han, TP 2 ser. 34 (1949/50), 81—131.

Balazs, E., Le traité économique du 'Souei-chou', TP 2 ser. 42.3/4 (1953), 113—328.

Balazs, E., Transformation du régime de la propriété dans la Chine Tartare et dans la Chine Chinoise aux IVe—Ve siècles A.D., CHM 1.2 (1953), 417—426.

Balazs, E., Une carte des centres commerciaux de la Chine, à la fin du XIe siècle, Annales (ESC) 12 (1957), 587—593.

Balazs, E., The Birth of Capitalism in China, in: Idem, Chinese Civilization and Bureaucracy, Variations on a Theme, A. F. Wright (ed.), (New Haven 1964), 34—54.

Balazs, E., Les foires en Chine, RSJB 5 (1953), 77—88 = Idem, Fairs in China, in: Idem, Chinese Civilization and Bureaucracy, Variations on a Theme, A. F. Wright (ed.), (New Haven 1964), 55—65.

Balazs, E., Les villes chinoises. Histoire des institutions administrative et judiciaires, RSJB 6 (1954), 225—239 = Idem, Chinese Towns, in: Idem, Chinese Civilization and Bureaucracy, Variations on a Theme, A. F. Wright (ed.), (New Haven 1964), 66—78.

Balazs, E., Marco Polo in the Capital of China, in: Idem, Chinese Civilization and Bureaucracy, Variations on a Theme, A. F. Wright (ed.), (New Haven 1964), 79—100.

Balazs, E., L'histoire comme guide de la pratique bureaucratique, in: W. G. Beasley and E. G. Pulleyblank (eds.), Historians of China and Japan (London 1961), 78—94 = Idem, Chinese Civilization and Bureaucracy, Variations on a Theme, A. F. Wright (ed.), (New Haven 1964), 129—149.

Baldacci, P., *Patrimonium* e *Ager Publicus* al tempo dei Flavi, PP 24 (1969), 349—367.

Balling, A. J., De Romerske Møntfund fra Jylland, NNÅ (1962), 5—78.

BALOGH, E., and PFLAUM, H. G., La *consilium* du Prefet d'Egypte. Sa composition, RD 30 (1952), 117—124.

BALSAN, F., A la recherche des Arabes sur les côtes du Nord Mozambique, Monumenta 2 (1966), 57—62.

BALSAN, F., Ancient Gold Routes of the Monomotapa Kingdom, GJ 136 (1970), 240—246.

BAMMEL, E., Die Schätzung des Archelaos, Historia 7 (1958), 497—500.

BANDI, L., I conti privati nei papiri dell'Egitto greco-romano, Aegyptus 17.4 (1937), 349—451.

BANERJEE, N. R., The Excavations at Sengameda, March of India 8.2, no. 8 (1956), 43—46.

BANERJI, A., Ancient and Mediaeval Coins of Orissa, JNSI 9.2 (1947), 105—115.

BANERJI, J. N., Sophytes — Saubhuti, JNSI 7 (1945), 23—26.

BANERJI, R. D., Nahapana and the Saka Era, JRAS (1917), 273—289.

BANERJI, R. D., Notes on Indian Numismatics, JBORS 5 (1919), 81—87.

BANERJI, R. D., The Andhran Inscriptions of the Time of Rudradaman, EpInd 16 (1921), 19—25.

BANERJI-SASTRI, A., Sakas and Kuṣāṇas in the I and II Centuries, IHQ 13.2 (1937), 199—217.

BANG, M., Die Herkunft der römischen Sklaven, MDAI (R) 25 (1910), 223—251.

BARADEZ, J., Vue aérienne de l'organisation romaine dans le Sud-Algérien, Fossatum Africae (Paris 1949).

BARAG, D., Glass Vessels from the Cave of Horror, IEJ 12.3/4 (1962), 208—214.

BARAG, D., Mesopotamian Glass Vessels of the Second Millennium B.C., JGS 4 (1962), 9—27.

BARAG, D., Two Roman Glass Bottles with Remnants of Oil, IEJ 22.1 (1972), 24—26.

BARATTE, F., Une mosaïque retrouvée: L'embarquement de l'éléphant de Véii, MEFR 82 (1970), 287—307.

BARDON, H., Les empereurs et les lettres latines d'Auguste à Hadrien (Paris 1940).

BARGER, T. C., Greek Inscription Deciphered: Seal Found in Arabia, Archaeology 12 (1969), 139—140.

BARGUET, P., La stèle de la famine à Séthel, BEIFAO 24 (1953), 1—44.

BARKÓCZI, L., New Data on the History of Late Roman Brigetio, AAntHung 13 (1965), 215—257.

BARNES, T. D., The Family and Career of Septimius Severus, Historia 16 (1967), 87—107.

BARNES, T. D., Some Persons in the Historia Augusta, Phoenix 26.2 (1972), 140—182.

BARNES, T. D., Lactantius and Constantine, JRS 63 (1973), 29—46.

BARNES, T. D., Who were the Nobility of the Roman Empire?, Phoenix 28.4 (1974), 444—449.

BARNES, T. D., Imperial Campaigns: A.D. 285—311, Phoenix 30.2 (1976), 174—193.

BARNETT, L. D., The Date of Kanishka, JRAS (1913), 942—945.

BARNETT, R. D., Persepolis, Iran 19 (1957), 55—77.

BARNETT, R. D., The Art of Bactria and the Treasure of the Oxus, Iranica Antiqua 8 (1968), 34—53 (= Mélanges Ghirshman III).

BARNS, J. W. B., A Letter of Severus Alexander, JEA 52 (1966), 141—146.

BARTA, W., Zwei ramessidische Stelen aus dem Wadi Sannûr, MDAI(K) 20 (1965), 98—101.

BARTH, F., Nomads of South Persia (New York 1961).

BARTHOLD, V. V., Turkestan down to the Mongol Invasion (London 1928).

BARTHOLD, V. V., Four Studies in the History of Central Asia (Leiden 1956).

BARUZDIN, IU. D., Kara-Balakskii mogil'nik (raskopki 1955 g.), TIIANKirSSR 3 (1957), 17—31.

BARUZDIN, IU. D., and BRYKINA, G. A., Arkheologicheskie pamiatniki Batkena i Liailiaka (Frunze 1962).

BASCH, A., Analyses of Oil from Two Roman Glass Bottles, IEJ 22.1 (1972), 27—32.

BASCH, L., Ancient Wrecks and the Archaeology of Ships, IJNA 1 (1972), 1—58.

BASHAM, A. L., A New Study of the Śaka-Kuṣāṇa Period, BSOAS 15 (1953), 80—97.

BASHAM, A. L., The Succession of the Life of Kaniṣka, BSOAS 20 (1957), 77—88.

BASSETT, D. K., English Trade in the Celebes 1613—1667, JMBRAS 31.1 (1958), 1—39.

BASSETT, D. K., Dutch Trade in Asia, JSSS 14.1/2 (1958), 110—118.

BASTIEN, P., Trouvaille de Folles au Liban (294—307), RN 6 ser. 9 (1967), 166—179.

Bastien, P., and Huvelin, H., Trésor d'antoniniani en Syrie. La *Victoria Parthica* de Valérien. Les émissions d'Aurélien à Antioche et Tripoli, RN 6 ser. 11 (1969), 231—270.

Bastien, P., La *Victoria Parthica* de Valérien dans les émissions monétaires d'Antioche, SM 25 (1975), 16—17.

Bataille, A., P. Clermont-Ganneau 2, Aegyptus 31.2 (1951), 206—211.

Baxter, H. C., Pangani, the Trade Centre of Ancient History, TNR 17 (1944), 15—25.

Bayless, W. N., A Private Letter of Diogenes, BASP 10 (1973), 15—18.

Bazin, L., Recherches sur les Parlers T'o-pa, TP 2 ser. 39 (1950), 228—329.

Bean, G. E., Notes and Inscriptions from Caunus, JHS 74 (1954), 97—105.

Bean, G. E., and Mitford, T. B., Sites Old and New in Rough Cilicia, AnSt 12 (1962), 185—217.

Beaujeu, J., Le *Mare Rubrum* de Tacite et le problème de la chronologie des *Annales*, REL 38 (1960), 200—235.

Beazley, J. D., The Excavations of Al-Mina, Sueidia, III: The Red-Figured Vases, JHS 59 (1939), 1—44.

Beazley, J. D., An Archaic Greek Statuette from South Arabia, ABSA 40 (1939/40), 83—86.

Beazley, J. D., Attic Red-figure Vase Painters² (Oxford 1963).

Beazley, J. D., Paralipomena. Additions to Attic Black-Figure Vase-Painters and to Attic Red-Figure Vase-Painters (Oxford 1971).

Beck, H. C., Notes on Sundry Asiatic Beads, Man 30 (Oct. 1930), art. no. 134, 166—181.

Beck, H. C., and Seligman, C. G., Barium in Ancient Glass, Nature 133 (1934), 982.

Bedford, O. H., The Silk Trade of China with the Roman Empire, ChJour 28.5 (1938), 208—217.

Bedoukian, P. Z., Five Hoards Containing Coins of the Artaxiads of Armenia, REArmén 5 (1968), 421—433.

Bedoukian, P. Z., Some Armenian Coins Overstruck in Arabic, in: Armeniaca. Mélanges d'Études Arméniennes (Venice 1969), 138—147.

Bedoukian, P. Z., Some Unpublished Coins of the Artaxiads of Armenia, in: D. K. Kouymjian (ed.), Near Eastern Numismatics, Iconography, Epigraphy and History. Studies in Honor of George C. Miles (Beirut 1974), 27—35.

Beeston, A. F. L., Two South-Arabian Inscriptions: Some Suggestions, JRAS (1937), 59—70.

Beeston, A. F. L., Notes on Old South Arabian Lexicography, II, Le Muséon 63 (1950), 261—268.

Beeston, A. F. L., Notes on Old South Arabian Lexicography, IV, Le Muséon 65 (1952), 142—147.

Beeston, A. F. L., Notes on Old South Arabian Lexicography, V, Le Muséon 66 (1953), 109—122.

Beeston, A. F. L., Problems of Sabaean Chronology, BSOAS 16.1 (1954), 37—56.

Beeston, A. F. L., Qahtan. Studies in Old South Arabian Epigraphy, fasc. 1: The Mercantile Code of Qataban (London 1959).

Beeston, A. F. L., Qahtan. Studies in Old South Arabian Epigraphy, fasc. 2: The Labakh Texts (with addenda to 'The Mercantile Code of Qataban'), (London 1971).

Beeston, A. F. L., Sabaean Marginalia, AION 32 (1972), 394—400.

Behera, S. C., Origin of the Mathara Dynasty of Kalinga, OHRJ 12 (1964), 2. 57—59.

Belenitskii, A. M., Arkheologicheskie raboty v Piandzhikente, KSIIMK 55 (1954), 31—47.

Belenitskii, A. M., O nekotorykh siuzhetakh Piandzhikentskoi zhivopisi, KSIIMK 61 (1956), 56—62.

Belenitskii, A. M., Obshchie rezul'taty raskopok gorodishcha drevnego Pendzhikenta (1957—1953 gg.), in: Trudy Tadzhikskoi Arkheologicheskoi Ekspeditsii, vol. 3, MIA 66 (Moscow/Leningrad 1958), 104—154.

Belenitskii, A. M., Zoomorfnye tronye v izobrazitel'nom iskusstve Srednei Azii, IOONAN-TadzhSSR 28 (1962), 14—28.

Belenitskii, A. M., Raboty Pendzhikentskogo otriada v 1961 g., TIIANTadzhSSR 42 (1964), 53—75.

Belenitskii, A. M., K istorii kul'turnykh sviazei Srednei Azii i Indii v rannee srednevekov'e, in: Indiia v Drevnosti (Moscow 1964), 188—198.

Bell, H. I., A Byzantine Tax-Receipt (P.Lond. inv. 2574), MemIFAO 67, 105—111 = Mélanges G. Maspero, vol. 2.1: Orient grec, romain et byzantine (Cairo 1934).

Bell, H. I., A Latin Registration of Birth, JRS 27 (1937), 30—36.

Bell, H. I., The Economic Crisis in Egypt under Nero, JRS 28 (1938), 1—8.

Bell, H. I., Roman Egypt from Augustus to Diocletian, CE 13 (1938), 347—363.

Bell, H. I., Antinoopolis: A Hadrianic Foundation in Egypt, JRS 30 (1940), 133—147.

Bell, Col. M. S., The Great Central Asian Trade Route from Peking to Kashgaria, PRGS n.s. 12 (1890), 57—93.

Bellinger, A. R., Two Roman Hoards from Dura Europos, NNM 49 (New York 1931).

Bellinger, A. R., and Welles, C. B., A Third-Century Contract of Sale from Edessa in Osrhoene, YCS 51 (1935), 95—154.

Bellinger, A. R., Coins from Jerash, 1928—1934, NNM 81 (New York 1938).

Bellinger, A. R., Seleucid Dura: the Evidence of the Coins, Berytus 9.1 (1948), 51—67.

Bellinger, A. R., The Excavations at Dura-Europos, Final Report VI: The Coins (New Haven 1949).

Bellinger, A. R., Review of F. A. Lepper, Trajan's Parthian War (London 1948), AJPh 71 (1950), 311—316.

Bellinger, A. R., The Boston College Hoard, ANSMN 10 (1962), 43—50.

Bellinger, A. R., Coins from the Treasure of the Oxus, ANSMN 10 (1962), 51—67.

Belloni, G. G., Le monete di Traiano: Catalogo del Civico Gabinetto Numismatico, Museo Archeologico di Milano (Milan 1973).

Bellwood, P., The Prehistory of Oceania, CA 16.1 (1975), 9—28.

Belov, G. D., Steklodelie v Khersonese, SA (1965), 3. 237—239.

Belov, G. D., Terra sigillata iz Khersonesa, SA (1967), 4.301—306.

Belov, G. D., Steklodelatel′naia masterskaia v Khersonese, KSIA 116 (1969), 80—84.

Bengtson, H., and Otto, W., Zur Geschichte des Niederganges des Ptolemäerreiches: ein Beitrag zur Regierungszeit des 8. und des 9. Ptolemäers, ABAW N.F. 17 (Munich 1938).

Bengtson, H., Kosmas Indikopleustes und die Ptolemäer, Historia 4 (1955), 151—156.

Bengtson, H., Die Strategie in der hellenistischen Zeit^2, vol. 3, Münchener Beiträge zur Papyrusforschung und antiken Rechtsgeschichte 32 (Munich 1964).

Benoit, P., Milik, J. T., and de Vaux, R., Discoveries in the Judaean Desert, vol. 2: Les Grottes de Murabba'at, Texts (Oxford 1961).

Benveniste, E., Inscriptions de Bactriane, JA 249 (1961), 113—150.

Benveniste, E., Edits d'Asoka en traduction grecque, JA 252 (1964), 137—157.

Benveniste, E., and Dupont-Sommer, A., Une inscription indo-araméenne d'Asoka provenant de Kandahar (Afghanistan), JA 254 (1966), 437—465.

Berendes, J., Des Pedianios Dioskurides Arzneimittellehre (Stuttgart 1902).

Berghaus, P., Umlauf und Nachprägung des Florentiner Guldens nördlich der Alpen, Atti Congresso Internazionale di Numismatica, Roma 1961, vol. 2 (Rome 1965), 595—607.

Bergman, F., Archaeological Researches in Sinkiang, Sino-Swedish Expedition Publication 7, VII. Archaeology 1 (Stockholm 1939).

Bergman, F., Lou-lan Wood-Carvings and Small Finds Discovered by Sven Hedin, BMFEA 7 (1953), 71—144.

Berkoff, A. E., Israël. Notes about Recent Excavations of Glasses, BJIV 4 (1965/66), 110—117.

Bernand, A., and Masson, D., Les inscriptions grecques d'Abou-Simbel, REG 10 (1957), 1—46.

Bernand, A. and E., Les inscriptions grecques et latines du Colosse de Memnon, BEIFAO 31 (Cairo 1960).

Bernand, A., Alexandrie la Grande (Paris 1966).

Bernand, A., Les inscriptions grecques de Philae, 2 vols. (Paris 1969).

Bernand, A., De Koptos à Kosseir (Leiden 1972).

Bernand, A., Le Paneion d'El-Kanaïs: les inscriptions grecques (Leiden 1972).

Bernand, E., Inscriptions métriques de l'Égypte gréco-romaine. Recherches sur la poésie épigrammatique des Grecs en Égypte, Annales littéraires de l'Université de Besançon 98 (Paris 1969).

Bernard, P., and Schlumberger, D., Aï Khanoum, BCH 85 (1965), 590—657.

Bernard, P., Première campagne de fouilles d'Aï Khanoum, CRAI (1966), 127—133.

Bernard, P., Aï Khanum on the Oxus: a Hellenistic city in Central Asia, PBA 53 (1967), 71—95.

Bernard, P., Deuxième campagne de fouilles d'Aï-Khanoum en Bactriane, CRAI (1967), 306—324.

Bernard, P., Chapiteaux corinthiens hellénistiques d'Asie Centrale découverts à Aï Khanoum, Syria 45 (1968), 111—151.

Bernard, P., Troisième campagne de fouilles à Aï Khanoum en Bactriane, CRAI (1968), 263—279.

Bernard, P., Quatrième campagne de fouilles à Aï Khanoum (Bactriane), CRAI (1969), 313—355.

Bernard, P., Sièges et lits en ivoire d'époque hellénistique en Asie Centrale, Syria 47 (1970), 321—343.

Bernard, P., Trois notes d'archéologie iranienne, JA 262 (1974), 279—297.

Bernard-Thierry, S., À propos des emprunts sanskrits en Malgache, JA 247 (1959), 311—348.

Bernhard, M.-L., Topographie d'Alexandrie: Le tombeau d'Alexandre et le mausolée d'Auguste, RA 6 ser. 47 (1956), 129—156.

Bernshtam, A. N., Kenkol'skii mogil'nik, Arkheologicheskie ekspeditsii Gos. Ermitazha, 2 (Leningrad 1940).

Bernshtam, A. N., Arkheologicheskie raboty v Semirech'e, KSIIMK 4 (1940), 42—48.

Bernshtam, A. N., Osnovnye etapy istorii kul'tury Semirech'ia i Tian'-Shania, SA 11 (1949), 336—384.

Bernshtam, A. N., Novye nadpisi iz Srednei Azii, EV 3 (1949), 55—58.

Bernshtam, A. N., Istoriko-arkheologicheskie ocherki Tsentral'nogo Tian'-Shania i Pamiro-Altaia, MIA 26 (Moscow/Leningrad 1952).

Berthelot, A., Questions hannibaliques: les éléphants d'Hannibal au Mont-Cents, REA 38 (1936), 35—38.

Besnier, R., Le règlement des successions des affranchis d'après les lois caducaires (Gaius, Institutes III.42—54), StudClas 7 (1965), 55—65.

Bezborodov, M. A., and Abdurazakov, A. A., Newly Discovered Glassworks in the USSR, 3rd—14th Centuries A.D., JGS 6 (1964), 64—69.

Bezborodov, M. A., and Zadneprovsky, J. A., Ancient and Medieval Glass of Middle Asia, in: M. Levey (ed.), Archeological Chemistry: A Symposium (Philadelphia 1967), 29—57.

Bhattacharya, K., Précisions sur la paléographie de l'inscription dite de Vô-canh, Artibus Asiae 24 (1961), 219—224.

Bianchi, A., La 'Vittoria' nella propaganda monetaria dell'eta di M. Aurelio (161—180), AIIN 18/19 (1971/72), 153—173.

Bianquis, T., Scanlon, G. T., and Watson, A., Numismatics and the Dating of Early Islamic Pottery in Egypt, in: D. K. Kouymjian (ed.), Near Eastern Numismatics, Iconography, Epigraphy and History. Studies in Honor of George C. Miles (Beirut 1974), 163—173.

Bibby, T. G., The 'Ancient Indian Style' Seals from Bahrain, Antiquity 32 (1958), 243—246.

Bibby, T. G., Preliminary Survey in East Arabia 1968, Reports of the Danish Archaeological Expedition to the Arabian Gulf, vol. 2, Jutland Archaeological Society Publications 12 (Copenhagen 1973).

Bieber, M., The Sculpture of the Hellenistic Age^2 (New York 1961).

Biek, L., Archaeology and the Microscope (London 1963).

Bielenstein, H., The Census of China During the Period 2—742 A.D., BMFEA 19 (1947), 125—163.

Bielenstein, H., The Fall of a Chinese Dynasty, Inaug. Lecture, Canberra University (1953).

Bielenstein, H., Emperor Kuang-wu (A.D. 25—57) and the Northern Barbarians (Canberra 1956).

Bielenstein, H., The Restoration of the Han Dynasty, with a Prolegomena on the Historiography of the Hou Han Shu, I, BMFEA 26 (1956).

Bielenstein, H., The Restoration of the Han Dynasty, II: The Civil War, BMFEA 31 (1959), 1—287.

Bielenstein, H., The Restoration of the Han Dynasty, III, BMFEA 39.2 (1967), 1—199.

Biezunska-Małowist, I., Recherches sur l'esclavage dans l'Égypte romaine, CRAI (1959), 203—210.

Biezunska-Małowist, I., Les citoyens romains à Oxyrhynchos aux deux premiers siècles de l'Empire, in: J. Bingen, G. Cambier and G. Nachtergael (eds.), Le monde grec. Pensée, littérature, histoire, documents. Hommages à Claire Préaux (Bruxelles 1975), 741—747.

Biezunska-Małowist, J., La traite d'esclaves en Egypte, in: Proceedings of the XIV International Congress of Papyrologists, Oxford, 24—31 July 1974, GRM 61 (London 1975), 11—18.

Billimoria, N. M., Identification of Some Old Places in Ancient Sind, JSHS 1.3 (1935), 1—34.

Bingen, J., Les colonnes 60—72 du P. Revenue Laws et l'aspect fiscal du monopole des huiles, CE 21 (1946), 127—148.

Bingen, J., Les comptes dans les archives d'Héroninos, CE 26 (1951), 378—385.

Bingen, J., Le prix de l'or dans l'édit du Maximum, CE 40 (1965), 202—208, 431—434.

Bingen, J., Un épistratège ptolémaïque (Inscr. Philae 44), CE 44 (1969), 334—338.

Bingen, J., Les épistratèges de Thébaïde sous les derniers Ptolémées, CE 45 (1970), 369—378.

Bingen, J., Sur quelques proscynèmes grecs de l'Ouadi Hammamat, CE 47 (1972), 283—287.

Bingen, J., Review of A. Bernand, De Koptos à Kosseir (Leiden 1972), CE 47 (1972), 325—328.

Bird, J., Observations on the Bactrian and Mithraic Coins in the Cabinet of the Bombay Branch of the Royal Asiatic Society, JBBRAS 1 (1843), 293—302.

Birley, A. R., Roman Frontier Policy under Marcus Aurelius, in: A. S. Appelbaum (ed.), 7th Int. Congress of Roman Frontier Studies, 1967 (Tel Aviv 1971), 7—13.

Birley, A., Septimius Severus. The African Emperor (New York 1972).

Birley, E., Hadrianic Frontier Policy, in: E. Swoboda et al., Carnuntina. Ergebnisse der Forschung über die Grenzprovinzen des römischen Reiches. Vorträge beim Internationalen Kongress der Altertumsforscher Carnuntum 1955, Röm. Forschg. in Niederösterr. III (Graz 1956), 25—33.

Birley, E., Roman Britain and the Roman Army. Collected Papers (Kendal 1961).

Birley, E., The Thorngrafton Hoard, NC 7 ser. 3 (1963), 61—66.

Biscottini, M. V., L'archivio di Tryphon, tessitore di Oxyrhynchos, Aegyptus 46 (1966), 60—90, 186—292.

Bissing, F. W. von, Pyene (Punt) und die Seefahrten der Ägypter, Welt des Orients 3 (1948), 146—157.

Bisson, M. S., Prehistoric Copper Mining in Northwestern Zambia, Archaeology 27.4 (1974), 242—247.

Bisson de la Roque, M. F., Voyage au Djebel Shaïb, BSRGE 11 (1922), 113—140.

Bivar, A. D. H., The Inscriptions of Uruzgan, JRAS (1954), 112—118.

Bivar, A. D. H., Notes on Kushan Cursive Seal Inscriptions, NC 6 ser. 15 (1955), 203—210.

Bivar, A. D. H., The Bactrian Treasure of Qunduz, JNSI 17.1 (1955), 37—52.

Bivar, A. D. H., The Kushano-Sassanian Coin Series, JNSI 18.1 (1956), 13—36.

Bivar, A. D. H., The Murundas and Their Coinage, JNSI 18.1 (1956), 37—42.

Bivar, A. D. H., The Kaniṣka Dating from South Kotal, BSOAS 26 (1963), 498—502.

Bivar, A. D. H., and Shaked, S., The Inscriptions at Shīmbār, BSOAS 27 (1964), 265—290.

Bivar, A. D. H., The First Parthian Ostracon from Iran, JRAS (1970), 63—66.

Bivar, A. D. H., Appendix: The Sasanian Coin from Qūmis, JRAS (1970), 156—158.

Bivar, A. D. H., Hāritī and the Chronology of the Kuṣāṇas, BSOAS 33.1 (1970), 10—21.

Bivar, A. D. H., and Fehérvari, G., Ghubayra, Iran 11 (1973), 194—195.

Bivar, A. D. H., The Kuṣāṇa Trilingual, BSOAS 39.2 (1976), 333—340.

Blanchet, A., Les rapports entre les dépôts monétaires et les événements militaires, politiques et économiques, RN 39 (1936), 1—70, 205—269.

Blavatskii, K. D., Stsena investitury na Karagodeuashehkhskom ritone, SA (1974), 1. 38—44.

Bloch, J., Sur quelques transcriptions de noms indians dans le Périple de la mer Érythrée, in: Mélanges d'Indianisme offerts par ses élèves à M. Sylvian Levi, Le 29 Janvier 1911 (Paris 1911), 1—16.

Bloch, J., Les inscriptions d'Asoka (Paris 1950).

Bloch, M., Technical Change as a Problem of Collective Psychology, Journal of Normal and Pathological Psychology (1948), 104—115 = Idem, Selected Papers: Land and Work in Medieval Europe (New York 1967), 124—135.

Bloch, M., and Verin, P., Discovery of an Apparently Neolithic Artefact in Madagascar, Man n. s. 1 (1966), 240—241.

Bloch, T., Excavations at Basarh, ASIAnRep (1903/04), 81—122.

Blue, R. C., The Argumentation of the Shih-huo Chih Chapters of the Han, Wei and Sui Dynasty Histories, HJAS 11.1/2 (1948), 1—118.

Blumenthal, F., Der ägyptische Kaiserkult, APF 5 (1913), 317—345.

Blust, D., Austronesian Culture History: Some Linguistic Inferences and their Relations to the Archaeological Record, WA 8.1 (1976), 19—43.

Boak, A. E. R., Soknopaiou Nesos. The University of Michigan Excavation at Dimê in 1931—32, University of Michigan Studies, Humanistic Series 39 (Ann Arbor 1935).

Boak, A. E. R., The Organization of Guilds in Greco-Roman Egypt, TAPhA 68 (1937), 212—220.

Boak, A. E. R., Karanis and the Revolt of Domitius Domitianus, EPap 8 (1957), 41—48.

Boardman, J., Early Euboean Pottery and History, ABSA 52 (1957), 1—29.

Boardman, J., Greek Potters of Al-Mina?, AnSt 9 (1959), 161—169.

Boardman, J., The Greeks Overseas (Harmondsworth 1964).

Boardman, J., Tarsus, Al-Mina and Greek Chronology, JHS 85 (1965), 5—15.

Boardman, J., Travelling Rugs, Antiquity 44 (1970), 143—144.

Bochkarev, V. S., Novyi klad Prikubanskikh bronz iz Rostovskoi obl., KSIA 132 (1972), 87—91.

Bodeus, R., Le premier cours occidental sur la royauté achéménide, AC 42.2 (1973), 458—472.

Boeles, J. J., A Note on Tamil Relations with South Thailand and the Identification of Ptolemy's Tacola, JSS 54.2 (1966), 221—227.

Bogaert, R., Le cours du statère de Cyzique aux V^e^ et IV^e^ siècles avant J.C., AC 32 (1963), 85—120.

Bogaert, R., Encore le cours du statère de Cyzique aux V^e^ et IV^e^ siècles avant J.C., AC 33 (1964), 121—128.

Bogaert, R., Banquiers, courtiers et prêts maritimes à Athènes et à Alexandrie, CE 40 (1965), 140—156.

Bogaert, R., Méthodes d'analyse et numismatique. Le problème du Cyzicène III, AC 34 (1965), 204—213.

Bogaert, R., Banques et banquiers dans les cités grecques (Leiden 1968).

Bogoliubov, M. N., Aramiskaia napis' na Serebrianoi plastinke iz Irana, PalSb 21 (1970), 87—90.

Bogoliubov, M. N., Pekhlaviiskaia nadpis' iz Konstantinopolia, PalSb 23 (1971), 92—100.

Boisselier, J., Travaux de la mission archéologique française en Thailande (Juillet—Novembre 1966), ArtsAs 25 (1972), 27—90.

Bolin, S., Fynden av romerska mynt i det fria Germanien (Lund 1926).

Bolin, S., Der römische Denar und Greshams Gesetz, Congrès International de Numismatique, Paris, 6—11 Juillet 1953, vol. 2 (Paris 1957), 577—590.

Bolin, S., State and Currency in the Roman Empire (Stockholm 1958).

Bollini, M., Vibio Seneca, StR 17 (1966), 229—233.

Bololiubov, M. N., Serebrianyi sosud s aramekskoi nadpis'iu iz kolleitsii forugi, PalSb 23 (1971), 101—103.

Bolton, J. P. D., Aristeas of Proconnesus (Oxford 1962).

Boltounova, A., Quelques notes sur l'inscription de Vespasien, trouvée à Mtskhetha, Klio 53 (1971), 213—222.

Bol'shakov, O. G., and Negmatov, N. N., Raskopki v prigorode Drevnego Pendzhikenta, in: Trudy Tadzhikskoi Arkheologicheskoi Ekspeditsii, vol. 3, MIA 66 (Moscow/Leningrad 1959), 155—192.

Boneschi, P., L'inscription liḥyānite d'anciennes monnaies tenues pour Sabéennes, RSO 26 (1951), 1—15.

Boneschi, P., Inscriptions humiliantes de monnaies sabéennes, RSO 29 (1954), 17—27.

Boneschi, P., Le *Martyrium Arethae* et les monnaies Sabéennes à inscriptions humiliantes, RSO 39 (1964), 117—118.

Boneschi, P., Les inscriptions des vases à parfums et à cosmétiques du tombeau A5 de Ḥureyḍa, RSO 40.4 (1965), 279—285.

Boneschi, P., Encore à propos des monogrammes Sud-Arabes de la grande jarre de *Tell el-Ḫeleyfeh*, RSO 43.2 (1968), 209—214.

Boneschi, P., Antique inscription sud-arabe d'un supposé cachet provenant de Beytin (Béthel), RSO 46.3/4 (1971), 149—165.

Bonneau, D., Le fisc et le Nil. Incidences des irrégularités de la crue du Nil sur la fiscalité foncière dans l'Égypte grecque et romaine, Publication de l'Institute de Droit romain de l'Université de Paris n.s. no. 2 (Paris 1971).

Bonner, S. F., Roman Declamation in the Late Republic and Early Empire (Liverpool 1969).

Boon, G. C., Gilt Glass Beads from Caerleon and Elsewhere, BBCS 22 (1966), 104—109.

Bordea, G. R., Le trésor de Mărăşeşti. Les statères en or des cités du Pont Gauche et le problème des relations avec le monde grec et les populations locales aux IV^{e}—I^{er} siècles av. n. e., Dacia 18 (1974), 103—125.

Borkowski, Z., A New Christian Stela from Palmyra, in: Mélanges offerts à Kazimierz Michałowski (Warsaw 1966), 311—312.

Borkowski, Z., Toll-Recipts for ἑκατοστή, ῥ καὶ ὑ and ἑρμοφυλακία from Berlin, JJP 16/17 (1971), 131—139.

Borovka, G. I., Die Funde der Expedition Koslov in der Mongolei 1924/25, JDAI 41 (1926), 341—368.

Borovka, G. I., Arkheologicheskoe obsledovanie srednego techeniia r. Toly, in: Severnaia Mongoliia 2 (Leningrad 1927), 43—88.

Borovka, G. I., Wanderung eines archaisch-griechischen Motives über Skythien und Bactrien nach Alt-China, in: Fünfundzwanzig Jahre Römisch-Germanische Kommission (Berlin/Leipzig 1930) 52—81.

Bortvin, N. N., The Verkhny-Kizil Find, ESA 3 (1928), 122—131.

Bosch, F. D. K., Summary of Archaeological Work in Netherlands' India in 1933, ABIA 8 (1933), 34—38.

Bosch, F. D. K., Het bronzen Buddha-beeld van Celebes' Westkust, TITLV 73 (1933), 495—512.

Botti, G., La deuxième trouvaille de Samanoud, BSRAA 1 (1898), 25—35.

Boube-Piccot, C., Note sur l'existence d'ateliers de bronziers à Volubilis, BAMar 5 (1964), 195—198.

Boube-Piccot, C., Phalères de Maurétanie Tingitane, BAMar 5 (1964), 145—181.

Bounni, A., and Saliby, N., Six nouveaux emplacements fouillés à Palmyre, AAS 15.2 (1965), 121—138.

Bounni, A., En mission à Palmyre: bilan de dix années d'explorations et découvertes, Archéologia 16 (1967), 40—49.

Bounni, A., and Saliby, N., Fouilles de l'annexe de l'agora à Palmyre. Rapport préliminaire, AAS 18 (1968), 93—102.

Bovill, E. W., The Camel and the Garamantes, Antiquity 30 (1956), 19—21.

Bowen, R. L. Jr., Arab Dhows of Eastern Arabia, American Neptune 9.2 (1949), 87—132.

Bowen, R. L. Jr., and Albright, F. P. (eds.), Archaeological Discoveries in South Arabia, Publications of the American Foundation for the Study of Man, vol. 2 (Baltimore 1958).

Bowen, R. L. Jr., Egypt's Earliest Sailing Ships, Antiquity 34 (1960), 117—131.

Bowersock, G. W., Augustus and the Greek World (Oxford 1965).

Bowersock, G. W., Greek Sophists in the Roman Empire (Oxford 1969).

Bowersock, G. W., The Annexation and Initial Garrison of Arabia, ZPE 5.1 (1970), 37—47.

Bowersock, G. W., A Report on Arabia Provincia, JRS 61 (1971), 219—242.

Bowersock, G. W., Syria under Vespasian, JRS 63 (1973), 133—140.

Bowersock, G. W., The Greek-Nabataean Bilingual Inscription at Ruwwāfa, Saudi Arabia, in: G. Cambier (ed.), Le monde grec: Hommages à Claire Préaux (Bruxelles 1975), 513—522.

Bowman, A. K., A Letter of Avidius Cassius?, JRS 60 (1970), 20—26.

Bowman, A. K., Papyri and Roman Imperial History, 1960—75, JRS 66 (1976), 153—173.

Bowman, A. K., Declaration to an Official, in: A. E. Hanson (ed.), Collectanea Papyrologica. Texts Published in Honour of H. C. Youtie, vol. 1, Papyrologische Texte und Abhandlungen 19 (Bonn 1976), 197—201.

Bowman, J., The Sasanian Church in the Kharg Island, AcIr 1 ser. 1 (1974) = Commémoration Cyrus: Actes du Congrès de Shiraz 1971 et autres études rédigées à l'occasion du 2500e anniversaire de la fondation de l'Empire Perse, Hommage Universel, vol. 1, 217—220.

Bowra, C. M., Greek Lyric Poetry. From Alcman to Simonides^2 (Oxford 1961).

Boyer, A.-M., Nahapâna et l'ère Çaka, JA 9 ser. 10 (1897), 120—151.

Boyer, A.-M., L'Époque de Kaniṣka, JA 9 ser. 15 (1900), 526—579.

Boyer, A.-M., Rapson, E. J., Senart, E., and Noble, P. S., Kharoṣṭhī Inscriptions Discovered by Sir Aurel Stein in Chinese Turkestan, 3 vols. (Oxford 1920—1929).

Braddell, R., An Introduction to the Study of Ancient Times in the Malay Peninsula and the Straits of Malacca, JMRRAS 17.1 (1939), 146—212.

Braddell, R., Notes on Ancient Times in Malaya, JMBRAS 20.1 (1947), 161—183; 2.1—19.

Braddell, R., Notes on Ancient Times in Malaya: Takola and Kataha, JMBRAS 22.1 (1949), 1—16.

Braddell, R., Notes on Ancient Times in Malaya: Ilangasoka and Kadaram, JMBRAS 22.1 (1949), 16—24.

Braddell, R., Arikamedu and Oc-èo, JMBRAS 24.3 (1951), 154—157.

Braddell, R., Malayadvipa: A Study in Early Indianization, MJIG 9 (1956), 1—20.

Braichevs'kii, M. Iu., Rims'ka moneta na teritorii Ukraini (Kiev 1959).

Brashear, W., Soldier's Letter, in: A. E. Hanson (ed.), Collectanea Papyrologica. Texts Published in Honour of H. C. Youtie, vol. 1, Papyrologische Texte und Abhandlungen 19 (Bonn 1976), 325—329.

Braunert, H., Auswärtige Gäste am Ptolemäerhofe, JDAI 65/66 (1950—1951), 231—263.

Braunert, H., Die Binnenwanderung. Studien zur Sozialgeschichte Ägyptens in der Ptolemäer- und Kaiserzeit, BHF 26 (Bonn 1964).

Breasted, J. H., Ancient Records of Egypt, 4 vols. (Chicago 1906).

Breccia, E., Alexandrea ad Aegyptum (Bergamo 1914).

Breccia, E., Un ripostiglio di monete imperiali alessandri, BSRAA 17 (1919), 230—250.

Breeze, D. J., The Organization of the Career Structure of the *immunes* and *principales* of the Roman Army, BJ 174 (1974), 249—292.

Brenot, C., and Pflaum, H.-G., Les émissions orientales de la fin du III^e s. après J.-C. à la lumière de deux trésors découverts en Syrie, RN 6 ser. 7 (1966), 134—205.

Brentjes, B., A Figure of Harpocrates from the Farghāna Valley, E & W n. s. 21 (1971), 75—76.

Brentjes, B., Romulus und Remus mit der Wölfin aus Nordtadshikistan, CAJ 15.3 (1971), 183—185.

Brentjes, B., Zur ökonomischen Funktion des Rindes in den Kulturen des Alten Orients (II), Klio 55 (1973), 33—78.

Brett, A. B., A Roman Gold Bar from Egypt, Numismatist 33 (1920), 279—281.

Brett, A. B., Athena ΑΛΚΙΔΗΜΟΣ of Pella, ANSMN 4 (1950), 55—72.

Bretzl, H., Botanische Forschungen des Alexanderzuges (Leipzig 1903).

Breuil, H., Restes d'une sépulture en grotte au Sahara, JSA 24.2 (1954), 113—117.

Brewster, E. H., A Weaver of Oxyrhynchus: Sketch of an Humble Life in Roman Egypt, TAPhA 58 (1927), 132—154.

Brewster, E. H., A Weaver's Life in Oxyrhynchus: His Status in the Community, in: G. P. Hadzsits (ed.), Classical Studies in Honour of John C. Rolfe (Philadelphia 1931), 19—45.

Brice, W. C., Caravan Traffic across Asia, Antiquity 28 (1954), 78—84.

Briggs, L. P., The Ancient Khmer Empire, TAPhS 41.1 (Philadelphia 1951).

Brill, R. H., An Observation on the Corinth *Diatretum*, JGS 6 (1964), 56—59.

Broadribb, D., Concerning the Hymn of the 'Soul', Milla wa-Milla 5 (1965), 41—47.

Brogan, O., Trade between the Roman Empire and the Free Germans, JRS 26 (1936), 195—222.

Brogan, O., The Camel in Roman Tripolitania, PBSR 22 (= n. s. 9) (1954), 126—131.

Bronson, B., and Dales, G. F., Excavations at Chansen, Thailand, 1968 and 1969: A Preliminary Report, AP 15 (1972), 15—46.

Brough, J., Legends of Khotan and Nepal, BSOAS 12 (1948), 333—339.

Brough, J., A Kharoṣṭhī Inscription from China, BSOAS 24.3 (1961), 517—530.

Brough, J., Comments on Third-Century Shan-shan and the History of Buddhism, BSOAS 28 (1965), 582—612.

Brough, J., Supplementary Notes on Third-Century Shan-shan, BSOAS 33 (1970), 39—45.

Broughton, T. R. S., A Significant Break in the Cistophoric Coinage of Asia, AJA 41 (1937), 248—249.

Brown, F. E., A Recently Discovered Composite Bow, SemKond 9 (1937), 1—10.

Brown, P., The Diffusion of Manichaeism in the Roman Empire, JRS 59 (1969), 92—103.

Brown, W. L., and Beeston, A. F. L., Sculptures and Inscriptions from Shabwa, JRAS (1954), 43—62.

Brozzi, M., Monete bizantine in tombe longobarde, QTNAC (1974), 219—223.

Bruin, F., Royal Purple and the Dye Industries of the Mycenaeans and Phoenicians, in: M. Mollat (ed.), Sociétés et compagnies de commerce en Orient et dans l'Océan Indien, Actes du 8e Colloque Intern. d'Histoire Maritime (Beyrouth 5—10 Sept. 1966), Bibliothèque générale de l'École Pratique des Hautes Études, VIe sec. (Paris 1970), 73—90.

Brundage, B. C., Feudalism in Ancient Mesopotamia and Iran, in: R. Coulborn (ed.), Feudalism in History (Hamden, Conn. 1965), 93—119.

Brunetti, L., La nozione dello Schlagabzug e quella della percentuale dell'oscillazione ponderale nella dottrina numismatica, RIN 4 ser. 22 (1974), 155—164.

Brunner, C. J., Middle Persian Inscriptions on Sasanian Silverware, MMJ 9 (1974), 109—121.

Brunner, C. J., The Middle Persian Inscription of the Priest Kirdēr at Naqš-i Rustam, in: D. K. Kouymjian (ed.), Near Eastern Numismatics, Iconography, Epigraphy and History. Studies in Honor of George C. Miles (Beirut 1974), 97—113.

Brunt, P. A., Pay and Superannuation in the Roman Army, PBSR 18 (1950), 50—71.

Brunt, P. A., The Equites in the Late Republic, in: Second International Conference of Economic History, Aix-en-Provence 1962, vol. 1: Trade and Politics in the Ancient World (Paris 1965), 117—149.

Brunt, P. A., The Fiscus and its Development, JRS 56 (1966), 75—91.

Brunt, P. A., Procuratorial Jurisdiction, Latomus 25 (1966), 461—489.

Brunt, P. A., Italian Manpower, 225 B.C.—14 A.D. (Oxford 1971).

Brunt, P. A., Aspects of the Social Thought of Dio Chrysostom and of the Stoics, PCPhS n.s. 19 (1973), 9—34.

Brunt, P. A., C. Fabricius Tuscus and an Augustan Dilectus, ZPE 13.2 (1974), 161—185.

Brunt, P. A., Did Imperial Rome Disarm her Subjects?, Phoenix 29.3 (1975), 260—270.

Brunt, P. A., The Administrators of Roman Egypt, JRS 65 (1975), 124—147.

Bruyère, B., Fouilles de Clysma-Qolzoum (Suez), 1930—1932, Fouilles IFAO 27 (Cairo 1966).

Bubler, C. E., Alte arabische Berichte über den fernen Osten, AsSt 8 (1954), 51—69.

Buchtal, H., The Common Classical Sources of Buddhist and Christian Narrative Art, JRAS (1943), 137—148.

Buchtal, H., The Western Aspects of Gandhara Sculpture, PBA (1945), 151—176.

Budge, E. A. W., The Egyptian Sudan, 2 vols. (London 1907).

Bühler, G., The Dewal or Illahābās Praśasti of Lalla the Chhinda, EpInd 1 (1888/1892), 75—85.

Bühler, G., Votive Inscriptions from the Stūpas at Sāñchi, EpInd 2 (1892/94), 87—116.

Bulliet, R. W., The Camel and the Wheel (Cambridge, Mass. 1975).

Bulling, A., A Landscape Representation of the Western Han Period, Artibus Asiae 25 (1962), 293—317.

Bulling, A. G., and Drew, I., The Dating of Chinese Bronze Mirrors, Archives of Asian Art 25 (1971/1972), 36—57.

Bureth, P., Documents papyrologiques relatifs aux préfets d'Égypte (Essai de classement méthodique), RD 4 ser. 46 (1968), 246—262.

Burke, L., Beads from Sungai Lumut, Brunei, BMJ 2.3 (1971), 89—95.

Burn, A. R., Review of W. W. Tarn, The Greeks in Bactria and India (Cambridge 1938), JRAS (1941), 61—68.

Burney, C., Tepe Yahya: Its Implications for Near Eastern Archaeology, Antiquity 49 (1975), 191—196.

Burrow, T., Iranian Words in the Kharoṣṭhī Documents from Chinese Turkestan, BSOS 7 (1934), 509—516; 779—790.

Burrow, T., Tokharian Elements in the Kharoṣṭhī Documents from Chinese Turkestan, JRAS (1935), 667—675.

Burrow, T., Iranian Words in the Kharoṣṭhi Documents from Chinese Turkestan — II, BSOS 7.4 (1935), 779—790.

Burrow, T., The Dialectical Position of the Niya Prakrit, BSOS 8. 2/3 (1936), 419—435.

Burrow, T., Further Kharoṣṭhi Documents from Niya, BSOS 9.1 (1937), 111—123.

Burrow, T., The Language of the Kharoṣṭhī Documents from Chinese Turkestan (Cambridge 1937).

Burrow, T., A Translation of the Kharoṣṭhi Documents from Chinese Turkestan, James G. Forlong Fund vol. 20 (London 1940).

Burrows, E., A New Kind of Old Writing from Ur, JRAS (1927), 795—806.

Bury, J. B., History of the Later Roman Empire, 2 vols. (London 1923).

Bushell, S. W., Ancient Roman Coins from Shansi, JPOS 1. 2 (1886), 17—28.

Bussagli, M., The Archaeological Aspect of Asiatic Contacts with Italy, E&W n.s. 1.1 (1950), 13—17.

Bussagli, M., Indian Events in Trogus Pompeius, E&W n.s. 7.3 (1956), 229—242.

Bussagli, M., Painting in Central Asia (Geneva 1963).

Bussagli, M., The Problem of Kaniska as Seen by the Art Historian, in: A. L. Basham (ed.), Papers on the Date of Kaniṣka (Leiden 1968), 39—56.

Butomo, S. V., Radiocarbon Dating in the Soviet Union, Radiocarbon 7 (1965), 223—228.

Buttrey, T. V., Dio, Zonaras and the Value of the Roman Aureus, JRS 51 (1961), 40—45.

Buttrey, T. V., Review of S. Bolin, State and Currency in the Roman Empire to 300 A.D. (Stockholm 1958), AJA 65.1 (1961), 84—87.

Buttrey, T. V., Old Aurei at Palmyra and the Coinage of Pescennius Niger, Berytus 14.2 (1963), 117—128.

Buttrey, T. V., Another Roman Coin from Africa, NC 7 ser. 4 (1964), 133—134.

Buttrey, T. V., Axumite Addenda, RSE 25 (1971/72), 44—52.

Buttrey, T. V., A Hoard of Sestertii from Bordeaux and the Problem of Bronze Circulation in the Third Century A.D., ANSMN 18 (1972), 33—58.

Butzer, K. W., Remarks on the Geography of Settlement in the Nile Valley During Hellenistic Times, BSRGE 33 (1960), 5—36.

Byrne, E. H., Commercial Contacts of the Genoese in the Syrian Trade of the Twelfth Century, QJE 31 (1916), 128—170.

Byrne, E. H., Easterners in Genoa, JAOS 38 (1918), 176—187.

Byrne, E. H., Genoese Trade with Syria in the Twelfth Century, AHR 25 (1920), 191—219.

Cadell, H., and Rémondon, R., Sens et emplois de Τὸ ὅρος dans les documents papyrologiques, REG 80 (1967), 343—349.

Cagnat, R., Une inscription grecque d'Égypte, CRAI (1910), 580—585.

Cagnat, R., A New Roman Customs List, JRS 4 (1914), 143—146.

Cahen, C., Le commerce Musulman dans l'Ocean Indien au moyen age, in: M. Mollat (ed.), Sociétés et compagnies de commerce en Orient et dans l'Océan Indien, Actes du 8e Colloque intern. d'Histoire Maritime (Beyrouth 5—10 Sept. 1966), Bibliothèque générale de l'École Pratique des Hautes Études, VIe sec. (Paris 1970), 179—193.

Cahn, H. A., Die Trierer Antoniniane der Tetrarchie, RSN 37 (1955), 5—22.

Cahn, H. A., Münzen aus fernen Gegenden in Augst, Provincialia. Festschrift für R. Laur-Belart (eds. E. Schmid, L. Berger, P. Bürgin), (Basel 1968), 57—79.

Calderini, R., Βουλευτικά, Aegyptus 31 (1951), 3—41.

Calderini, S., Ricerche sull'industria e il commercio dei tessuti in Egitto, Aegyptus 26 (1946), 13—83.

Caldwell, R., A Description of the Roman Imperial Coins Found near Calicut on the Malabar Coast and now in the Possession of his Highness the Raja of Travancore (Trivandram 1851).

Caley, E. R., Estimation of Composition of Ancient Metal Objects (Utility of Specific Gravity Measurements), Analytical Chemistry 24.4 (April 1952), 676—681.

Caley, E. R., Chemical Composition of Parthian Coins, NNH no. 129 (New York 1955).

Caley, E. R., Chemical Composition of Alexandrian Tetradrachms, in: H. Ingholt (ed.), CPANS (New York 1958), 167—180.

Caley, E. R., Analysis of Ancient Glass (Corning 1962).

Caley, E. R., Analysis of Ancient Metals, International Series of Monographs on Analytical Chemistry 19 (New York 1964).

Callies, H., Die fremden Truppen im römischen Heer des Prinzipats und die sogenannten nationalen Numeri. Beiträge zur Geschichte des römischen Heeres, BRGK 45 (1964), 130—227.

Callu, J.-P., Genio Populi Romani (295—316): contribution à une histoire numismatique de la Tétrarchie, Bibliothèque de l'École Pratique des Hautes Études. Section des sciences historiques et philologiques 314 (Paris 1960).

Callu, J.-P., A propos des papyri de Panopolis, BSFN 20.8 (1965), 500—501.

Callu, J.-P., A propos de JRS 56, 1966, pp. 190—195, BSFN 22.3 (1967), 135—136.

Callu, J.-P., La politique monétaire des empereurs romains de 238 à 311, BEFAR 214 (Paris 1969).

Calvi, M. C. (ed.), I vetri romani del Museo di Aquileia (Aquileia 1968).

Cameron, A., The Follis in Fourth-Century Egypt, NC 7 ser. 4 (1964), 135—138.

Cameron, G. G., Darius, Egypt, and the 'Lands Beyond the Sea', JNES 2.4 (1943), 307—313.

Cameron, G. G., Persepolis Treasury Tablets, OIP 65 (Chicago 1948).

Cameron, G. G., Persepolis Treasury Tablets Old and New, JNES 17.3 (1958), 161—176.

Cameron, G. G., New Tablets from the Persepolis Treasury, JNES 24 (1965), 167—192.

Cameron, G. G., The Persian Satrapies and Related Matters, JNES 32 (1973), 47—56.

Cameron, G. G., Darius the Great and his Scythian (Saka) Campaign, Bisitun and Herodotus, AcIr 2 ser. 1 (1975) = Monumentum H. S. Nyberg, vol. 1, 77—88.

Cameron, N., Barbarians and Mandarins: Thirteen Centuries of Western Travelers in China (New York/Tokyo 1970).

Camman, S. van R., Review of P. C. Bagchi, India and China: A Thousand Years of Cultural Relations^2 (New York 1951), FEQ 12 (1952), 57—60.

Camman, S. van R., Archaeological Evidence for Chinese Contacts with India during the Han Dynasty, Sinologica 5.1 (1958), 1—19.

Camman, S. van R., The Bactrian Nickel Theory, AJA 62.4 (1958), 409—414.

Camman, S. van R., On the Renewed Attempt to Revive the 'Bactrian Nickel Theory', AJA 66 (1962), 92—94.

Camps, A., and Filtzinger, P., In Köln gefundene Arretinische Töpferstempel 1962—1966, KJVFG 10 (1969), 47—55.

Cantineau, J., Inventaire des inscriptions de Palmyre, 9 fascicules, Publications du Musée National Syrien de Damas no. 1 (Beirut 1930—1933).

Cantineau, J., Inscriptions palmyréniennes, RAssyr 27 (1930), 27—51.

Cantineau, J., Textes palmyréniens provenant de la fouille du Temple de Bel, Syria 12 (1931), 116—141.

Cantineau, J., Tadmorea, Syria 14 (1933), 169—202; 17 (1936), 267—282; 346—355; 19 (1938), 72—82, 153—171.

Cantineau, J., La Susiane dans une inscription palmyrénienne, in: Mélanges Syriens offerts à Monsieur René Dussaud, vol. 1, BAH 30 (Paris 1939), 277—279.

Caquot, A., Nouvelles inscriptions araméennes de Hatra, Syria 29 (1952), 89—118.

Caquot, A., Nouvelles inscriptions araméennes de Hatra (II), Syria 30 (1953), 234—246.

Caquot, A., Nouvelles inscriptions araméennes de Hatra (III), Syria 32 (1955), 49—69.

Caquot, A., Nouvelles inscriptions araméennes de Hatra (IV), Syria 32 (1955), 261—272.

Caquot, A., and Drewes, A. J., Les monuments recueillis à Maqallé (Tigré), Annales d'Éthiopie 1 (1955), 17—41.

Caquot, A., Nouvelles inscriptions araméennes de Hatra (V), Syria 40 (1963), 1—16.

Caquot, A., Nouvelles inscriptions araméennes de Hatra (VI), Syria 41 (1964), 251—272.

Caquot, A., Review of W. G. Oxtoby, Some Inscriptions of the Safaitic Bedouin, AOS 50 (New Haven 1968), Syria 47 (1970), 413.

Carcopino, J., Les richesses des Daces et le redressement de l'Empire Romain sous Trajan, Dacia 1 (1924), 28—34.

Carcopino, J., Note complémentaire sur les numeri syriens de la Numidie romaine, Syria 14 (1933), 34—41.

Carratelli, G. P., Res Gestae Divi Saporis, PP 2 (1947), 209—239.

Carratelli, G. P., Ancora solle Res Gestae Divi Saporis, PP 2 (1947), 356—362.

Carratelli, G. P., Greek Inscriptions of the Middle East, E&W n.s. 16. 1/2 (1966), 31—36.

Carrington, R. C., Studies in the Campanian Villae Rusticae, JRS 21 (1931), 110—130.

Carroll, T. D., Account of the T'ù-yü-hún in the History of the Chin Dynasty (Berkeley 1953).

Carson, R. A. G., The Reform of Aurelian, RN 6 ser. 7 (1966), 225—235.

Carson, R. A. G., The Hamâ Hoard and the Eastern Mints of Valerian and Gallienus, Berytus 17 (1967/68), 123—142.

Carter, M. L., Royal Festal Themes in Sasanian Silverwork and their Central Asian Parallels, AcIr 1 ser. 1 (1974) = Commemoration Cyrus: Actes du Congrès de Shiraz 1971 et autres études redigées à l'occasion du 2500e anniversaire de la fondation de l'Empire Perse, Hommage Universel, vol. 1, 171—202.

Cary, M., Maës, Qui et Titianus, CQ n.s. 6 (1956), 130—134.

Cary, M., and Warmington, E. H., The Ancient Explorers^2 (Harmondsworth 1963).

Casal, J. M., Fouilles de Virampatnam-Arikamedu, Publication de la Commission des fouilles archéologiques, Fouilles de l'Inde (Paris 1949).

Casal, J. M. and G., Site urbain et sites funéraires des environs de Pondichéry Virampatnam-Mouttrapaléon-Souttoukéney, Publication de la Commission des fouilles archéologiques. Fouilles de l'Inde (Paris 1956).

Caskel, W., Lihyan und Lihyanisch, Arbeitsgemeinschaft für Forschung des Landes Nordrhein-Westfalen, Abh. H. 4 (Köln 1952).

Caskel, W., Die Inschrift von En-Nemāra — neu gesehen, MUSJ 45 (1969), 365—379.

Caspari, F., Studien zu dem Kallixeinosfragment Athenaios 5, 197c—203b, Hermes 68 (1933), 400—414.

Caspers, E. C. L. D., Harappan Trade in the Arabian Gulf in the Third Millennium B.C., Mesopotamia 7 (1972), 167—191.

Casson, L., The Isis and her Voyage, TAPhA 81 (1950), 43—56.

Casson, L., Speed Under Sail of Ancient Ships, TAPhA 82 (1951), 136—148.

Casson, L., New Light on Maritime Loans, Symbolae Raphaeli Taubenschlag Dedicatae (Vratislavia 1957) = Eos 48 (1956), 89—93.

Casson, L., The Origin of the Lateen, The American Neptune 31 (Jan. 1971), 49—51.

Casson, S., Herodotus and the Caspian, ABSA 23 (1918/1919), 175—193.

Castelin, K., Zur Datierung der spätnorischen Kleinsilbermünzen, SM 21 (1971), 33—37.

Castelin, K., Spätkeltische Didrachmen in Noricum und im Karpatenbecken, SM 22 (1972), 42—50.

Castelin, K., Wann endete der keltische Münzumlauf in Manching ?, SM 23 (1973), 119—125.

Castellani, O., La momie de la Grottarossa, RACF 3.2 (1964), 138—142.

Castiglione, L., Kunst und Gesellschaft im Römischen Ägypten, AAntHung 15 (1967), 107—152.

Castiglione, L., Diocletianus und die Blemmyes, ZÄS 96.2 (1970), 90—103.

Caton-Thompson, G., The Zimbabwe Culture, Ruins and Reactions (Oxford 1931).

Caton-Thompson, G., Zimbabwe, All Things Considered, Antiquity 38 (1964), 99—102.

Causse, C., A La Graufesenque une grande industrie gallo-romaine, Archéologia 7 (1965), 23—27.

Cavaignac, E., A propos du document nouveau BM 25124: Les deux routes d'Asie Mineure, JA 244 (1956), 341—347.

Cavallero, M., The Excavations at Choche (the Presumed Ctesiphon), Mesopotamia 1 (1966), 63—81.

Cavenaile, R., Influence latine sur le vocabulaire grec d'Égypte, CE 26 (1951), 391—404.

Cavenaile, R., Dionysias-les-Mines (Fayoum), StudPap 8.1 (1969), 7—35.

Cavenaile, R., Prosopographie de l'armée romaine d'Égypte d'Auguste à Dioclétian, Aegyptus 50 (1970), 213—320.

Chabot, J.-B., Glanures palmyréniennes, JA 11 ser. 12 (1918), 277—317.

Chabot, J.-B., Nouvelle inscription palmyrénienne d'Afrique, CRAI (1932), 265—269.

Chadwick, J., and Ventris, M., Documents in Mycenaean Greek^2 (Cambridge 1973).

Chakravarti, N. P., The Minor Rock-Edicts of Aṣoka and Some Connected Problems, AI 4 (1947/1948), 14—25.

Chakravarti, N. P., Spread of Indian Civilisation in Chinese Turkistan, JBORS 36. 3/4 (1950), 1—14.

Chakravarti, N. P., Hātūn Rock Inscription of Paṭōladēva, EpInd 30 (1953/1954), 226—231.

Chakraborti, H., Trade and Commerce of Ancient India (c. 200 B.C.—c. 650 A.D.), (Calcutta 1966).

Chakrabortty, S. K., Foreign Denominations of Ancient Indian Coins, IHQ 15 (1939), 65—74.

Chalon, G., L'édit de Tiberius Julius Alexander. Étude historique et exégétique, BHR 5 (Lausanne 1964).

Chamoux, F., Le Dionysos de Sakha, BCH 74 (1950), 70—81.

Chamoux, F., Le Roi Magus, RH 216 (1956), 18—34.

Chamoux, F., Une tête de Dionysos en bronze trouvée à Méroë, Kush 8 (1960), 77—87.

Champlin, E., The Chronology of Fronto, JRS 64 (1974), 136—159.

Chandra, M., Ancient Indian Ivories, BPWM 6 (1957/59), 4—64.

Chandra, M., A Study of the Terracottas from Mirpurkhas, BPWM 7 (1959/62), 1—22.

Chandra, M., and Gupta, P. L., Jewellery Moulds in Ancient India, BPWM 8 (1962/64), 8—17.

Chandra, M., Costumes, Textiles, Cosmetics and Coiffure in Ancient and Mediaeval India (Delhi 1973).

Chandra, R. G., The Chronology of Punch-marked Coins, in: A. K. Narain and L. Gopal (eds.), Seminar Papers on the Chronology of the Punch-marked Coins, Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 1 (Varanasi 1966), 145—147.

Chang, Chun-Ming, The Genesis and Meaning of Huan Kuan's Discourses on Salt and Iron, CSPSR 18 (1934), 1—52.

Chang, Ch'un-Shu, The Colonization of the Ho-Hsi Region in the Former Han Period: A Study of the Han Frontier System (Harvard Ph. D. thesis, unpublished, 1963).

Chang, Ch'un-Shu, Military Aspects of Han Wu-ti's Northern and Northwestern Campaigns, HJAS 26 (1966), 148—173.

Chang, Kuang-chih, The Archaeology of Ancient China^2 (New Haven 1968).

Chang, K. C., Prehistoric Ceramic Horizons in Southeastern China and their Extension into Formosa, AP 7. 1/2 (1963), 243—250.

Chang, K. C., Ancient Trade as Economics or as Ecology, in: J. A. Sabloff and C. C. Lamberg-Karlovsky (eds.), Ancient Civilization and Trade (Albuquerque 1975), 211—224.

Chang, Sen-dou, Some Aspects of the Urban Geography of the Chinese *Hsien* Capital, AAAG 51.1 (1961), 23—45.

Chang, Tzu-kao, Ts'ung tu-hsi t'ung-ch'i t'an tao wu tzu pen-i, KKHP (1956), 3. 73—74.

Chapekar, B. N., Report on the Excavation at Ter (1958), (Poona 1969).

Chapman, A. C., Port of Trade Enclaves in Aztec and Maya Civilizations, in: K. Polanyi, C. M. Arensberg and H. W. Pearson (eds.), Trade and Market in the Early Empires (New York 1957), 114—146.

Chapot, V., La frontière de l'Euphrate de Pompée à la conquête Arabe, BEFAR 99 (Paris 1907).

Chard, C. S., Time Depth and Culture Process in Maritime Northeast Asia, AP 5 (1961), 213—216.

Chard, C. S., First Radiocarbon Dates from the USSR, Arctic Anthropology 1 (1962), 85—86.

Chard, C. S., and Workman, W. B., Soviet Archaeological Radiocarbon Dates, II, Arctic Anthropology 3.1 (1965), 146—150.

Charleston, R. J., Han Damasks, Oriental Art 1.2 (1948), 63—81.

Charlesworth, D., Tell El-Farâʿîn: The Industrial Site, 1968, JEA 55 (1969), 23—30.

Charlesworth, M. P., Trade Routes and Commerce of the Roman Empire^2 (London 1926).

Charlesworth, M. P., Some Notes on the Periplus Maris Erythraei, CQ 22 (1928), 92—100.

Charlesworth, M. P., A Roman Imperial Coin from Nairobi, NC 6 ser. 9. 1/2 (1949), 108—110.

Charlesworth, M. P., Nero: Some Aspects, JRS 40 (1950), 69—76.

Charlesworth, M. P., Roman Trade with India: A Resurvey, in: P. R. Coleman-Norton (ed.), Studies in Roman Economic and Social History in Honour of Allan Chester Johnson (Princeton 1951), 131—143.

Charpentier, J., Die ethnographische Stellung der Tocharer, ZDMG 71 (1917), 347—388.

Charpentier, J., The Indian Travels of Apollonius of Tyana, Skrifter utgivna av. K. Humanistiska Vetenskaps. — Samfundet i Uppsala 29.3 (Uppsala/Leipzig 1934).

Chastagnol, A., Le compte des années régnales de Maximien en Égypte d'après les papyrus, BSFN 25.10 (1970), 214—216.

Chattopadhyaya, B. D., Dates of the Traikutaka Kings of Western Deccan and of their Coins, NC 7 ser. 9 (1969), 291—299.

Chattopadhyaya, B. D., Some Problems of Ancient and Early Medieval South India, in: D. C. Sircar (ed.), Early Indian Indigenous Coins (Calcutta 1971), 131—140.

Chattopadhyaya, B. D., Irrigation in Early Medieval Rajasthan, JESHO 16 (1973), 298—316.

Chattopadhyaya, S., The Sakas in India^2 (Santiniketan 1967).

Chattopadhyaya, S., Early History of North India^3 (Calcutta 1968).

Chaturvedi, S. N., A Sealing of Gondophares, JNSI 31.2 (1969), 140—142.

Chaudhury, R. D., and Das, M. C., A Find of Gold Coins from Assam, JNSI 35 (1973), 171—174.

Chaumont, M.-L., L'inscription de Kartīr à la Kaʿbah de Zoroastre (Texte, Traduction, Commentaire), JA 248 (1960), 339—380.

Chaumont, M.-L., Recherches sur les institutions de l'Iran ancien et de l'Arménie, I, JA 249 (1961), 297—320.

Chaumont, M.-L., Recherches sur les institutions de l'Iran ancien et de l'Arménie, II, JA 250 (1962) 11—22.

Chaumont, M.-L., Où les rois Sassanides étaient-ils couronnés, JA 252 (1964), 59—75.

Chaumont, M.-L., Les Sassanides et la christianisation de l'Empire iranien au IIIe siècle de notre ère, RHR 165 (1964), 165—202.

Chaumont, M.-L., Les Ostraca de Nisa. Nouvelle contribution à l'histoire des Arsacides, JA 256 (1968), 11—35.

Chaumont, M.-L., Études d'histoire parthe, I: Documents royaux à Nisa, Syria 43 (1971), 144—164.

Chaumont, M.-L., Études d'histoire parthe, II: Capitales et résidences des premiers Arsacides (III^{e}—I^{e} s. av. C.), Syria 50 (1973), 197—222.

Chaumont, M.-L., Chiliarque et Curopalate à la cour des Sassanides, Iranica Antiqua 10 (1973), 139—165.

Chaumont, M.-L., Conquêtes Sassanides et propagande Mazdéenne, Historia 22 (1973), 664—709.

Chaumont, M.-L., Études d'histoire parthe, III: Les villes fondées par les Vologèse, Syria 51 (1974), 75—89.

Chaumont, M.-L., États vassaux dans l'Empire des premiers Sassanides, AcIr 2 ser. 1 (1975) = Monumentum H. S. Nyberg, vol. 1, 89—156.

Chavannes, E., Documents sur les Tou-kiue (Turcs) Occidentaux (Paris 1900).

Chavannes, E., Dix inscriptions chinoises de l'Asie Centrale d'après les estampages de M. Ch.-E. Bonin (Paris 1902).

Chavannes, E., Les pays d'occident d'après le Wei Lio, TP 2 ser. 6 (1905), 519—571.

Chavannes, E., Trois généraux Chinois de la dynastie des Han Orientaux: Pan Tch'ao (32—102 p. C.); son fils Pan Yong; — Leang K'in († 112 p. C.). — chapitre LXXVII, du Heou Hanchou, TP 2 ser. 7 (1906), 210—269.

Chavannes, E., Les pays d'Occident d'après le 'Heou Han shou', TP 2 ser. 8 (1907), 149—234.

Chavannes, E., Les documents chinois découverts par Aurel Stein dans les Sables du Turkestan Oriental (Oxford 1913).

Cheesman, G. L., The Auxilia of the Roman Imperial Army (Oxford 1914).

Chen, Chi-lu, Old Glass Beads Possessed by the Paiwan Group of Taiwan, in: W. G. Solheim (ed.), Archaeology at the Eleventh Pacific Science Congress, Tokyo 1966, Asian and Pacific Archaeology Series, no. 1 (Honolulu 1967), 33—40.

Ch'en, Meng-Chia, Han-chien K'ao shu, KKHP (1968), 1. 77—110.

Ch'en Mo-ch'i, Mou Ying-hang and Ch'en Heng-an, Kuei-chou Ch'ing-chen P'ing-pa Han ma fa-chüeh pao-kao, KKHP (1959), 1. 85—103.

Ch'en, S. C., Sang Hung-Yang (143—80 B.C.): Economist of the Early Han, JRASNCB 67 (1936), 160—170.

Cheng, C. F., and Schwitter, G. M., Nickel in Ancient Bronzes, AJA 61.4 (1957), 351—365.

Cheng, C. F., and Schwitter, C. M., Bactrian Nickel and Chinese Bamboo, AJA 66 (1962), 89—92.

Cheng, Te-k'un, Archaeological Studies in Szechwan (Cambridge, Mass. 1957).

Cheng, Te-k'un, Archaeology in China, vol. 3: Chou China (Cambridge, Mass. 1963).

Cheng, Te-k'un, Metallurgy in Shang China, TP 2 ser. 60. 4/5 (1974), 209—229.

Chernetsov, V. N., and Moszynska, W., Pre-History of Western Siberia (Montreal/London 1974).

Chernikov, S. S., Drevniaia metallurgiia i gornoe delo zapadnogo Altaia, KSIIMK 23 (1948), 96—100.

Chernikov, S. S., O termine rannie kochevnik, KSIIMK 80 (1960), 17—21.

Chernikov, S. S., Zolotoi Kurgan Chiliktinskoi Doliny, KSIIMK 98 (1964), 29—32.

Chernykh, E. N., O Khimicheskom sostave metalla klada iz Sosnovoi Mazy, KSIA 108 (1966), 123—131.

Chewon, Kim, Treasures from the Songyimsa Temple in Southern Korea, Artibus Asiae 22 (1959), 95—112.

Chhabra, B. C., Three More Yūpa Inscriptions of King Mūlavarman from Kotei (E. Borneo), JGIS 12 (1945), 14—39.

Chhabra, B. C., Peshawar Potsherds with Kharoshthi Writing, EpInd 28.3 (1953), 125—128.

Chiang, Jo-shihkkuo, Wen-hsien. Lo-yang Chin mu ti fa-chüeh, KKHP (1957), 1. 169—185.

Chinmulgund, P. J., A New Silver Coin of Gautamiputra (A fresh examination), JNSI 9.1 (1947), 93—94.

Chinmulgund, P. J., A New Silver Coin of Gautamiputra (supplementary), JNSI 10.1 (1948), 22—23 (and editor's note p. 24).

Chittick, H. N., Antiquities of the Baṭn el Hajjar, Kush 5 (1957), 42—48.

Chittick, H. N., Kilwa and the Arab Settlement of the East African Coast, JAH 4.2 (1963), 179—190.

Chittick, H. N., Observations on Pre-Portuguese Accounts of the East African Coast, in: M. Mollat (ed.), Sociétés et compagnies de commerce en Orient et dans l'Océan Indien, Actes du 8^{e} Colloque Intern. d'Histoire Maritime (Beyrouth 5—10 Sept 1966), Bibliothèque générale des l'École Pratique des Hautes Études (Paris 1970), VI^{e} sec., 129—132.

Chittick, H. N., Kilwa: A Preliminary Report, Azania 1 (1966), 1—36.

Chittick, H. N., Six Early Coins from near Tanga, Azania 1 (1966), 156—157.

Chittick, H. N., Unguja Ukuu: The Earliest Imported Pottery and an Abbasid Dinar, Azania 1 (1966), 161—163.

Chittick, H. N., Discoveries in the Lamu Archipelago, Azania 2 (1967), 37—67.

Chittick, H. N., An Archaeological Reconnaissance of the Southern Somali Coast, Azania 4 (1969), 115—130.

Chittick, H. N., The 'Shirazi' Colonization of East Africa, in: J. D. Fage and R. A. Oliver (eds.), Papers in African Prehistory (Cambridge 1970), 257—276.

Chittick, H. N., The Coast of East Africa, in: P. L. Shinnie (ed.), The African Iron Age (Oxford 1971), 108—141.

Chittick, H. N., Kilwa: An Islamic Trading City on the East African Coast, 2 vols., Memoirs of the British Institute in Eastern Africa no. 5 (Nairobi 1974).

Chittick, H. N., Excavations at Aksum, 1973—1974: A Preliminary Report, Azania 9 (1974), 159—205.

Chlenova, N. L., Osnovye voprosy proiskhozhdeniia tagarskoi kul'tury Iuzhnoi Sibiri, in: Voprosy istorii Sibiri i Dal'nego Vostoka (Novosibirsk 1961), 279—383.

Chlenova, N. L., Skifskii olen', MIA 115 (1962), 167—203.

Chlenova, N. L., Pamiatniki Perekhodnogo Karasuk-Tagarskogo vremeni v Minusinskom Kotlovine, SA 33 (1963), 48—66.

Chlenova, N. L., Le Cerf Scythe, Artibus Asiae 26 (1963), 27—65.

Chopra, S. N., A Hoard of Punch-Marked Coins from Sugh, JNSI 35 (1973), 39—47.

Choudhary, R., Some Technical Numismatic Terms as Gleaned through Inscriptions, INC 2.1 (1961), 153—160.

Choudhury, C. R., A Catalogue of Early Indian Coins in the Asutosh Museum (Calcutta 1962).

Christie, A., An Obscure Passage from the Periplus: ΚΟΛΑΝΔΙΟΦΩΝΤΑ ΤΑ ΜΕΓΙΣΤΑ, BSOAS 19.2 (1957), 345—353.

Christol, M., A propos du trésor d'antoniniani de Kertch, BSFN 30.2 (1975), 714—718.

Chu Wen-Djang, The Moslem Rebellion in Northwest China 1862—1878: A Study of Government Minority Policy, Central Asiatic Studies, vol. 5 (The Hague/Paris 1966).

Chvostov, M., Istoriia vostochnoi torgovli: Greko-Rimskago Egipta (Kazan 1907).

Clairmont, C. W., The Excavations at Dura Europos. Final Report IV, Pt. 5: The Glass Vessels (New Haven 1963).

Clarke, A. C., Ceylon and the Underwater Archaeologist, Expedition 6.3 (1964), 19—21.

Clauson, G., Turk, Mongol, Tungus, AM 8 (1960), 105—123.

Clauson, N. Y., A Customs House Registry from Roman Egypt (P. Wisconsin 16), Aegyptus 9 (1928), 240—280.

Clayton, P. A., The Coins from Tell Rifa'at, Iraq 29.2 (1967), 143—154.

Clermont-Ganneau, Ch., Inscription gréco-palmyrénienne d'Égypte, RAO 5 (1903), 300—306.

Clermont-Ganneau, Ch., Inscription bilingue minéo-grecque, découverte à Délos, CRAI (1908), 546—560.

Clermont-Ganneau, Ch., Manboug-Hiérapolis dans les inscriptions nabatéennes, RAO 4 (1910), 99—112.

Clermont-Ganneau, Ch., Les Nabatéens en Égypte, RHR 80 (1919), 1—29.

Clermont-Ganneau, Ch., Odeinat of Vaballat, rois de Palmyre, et leur titre romain de Corrector, RB 29 (1920), 382—419.

Clermont-Ganneau, Ch., Nouvelles inscriptions palmyréniennes, RAO 8 (1924), 1—14.

Clermont-Ganneau, Ch., La dédicace gréco-nabatéenne de Milet, RAO 8 (1924), 144.

Clermont-Ganneau, Ch., Les Nabatéens en Égypte, RAO 8 (1929), 229—257.

Clermont-Ganneau, Ch., Découverte à Jérusalem d'une synagogue de l'époque hérodienne, Syria 12 (1931), 190—197.

Cleveland, R. L., The 1960 American Archaeological Expedition to Dhofar, BASOR 159 (1960), 14—26.

Coarelli, F., Nuovi elementi per la cronologia di Begram: Cinque recipienti bronzei in forma di busto, ArchClass 13 (1961), 168—179.

Coarelli, F., The Painted Cups of Begram and the Ambrosian Iliad, E&W n. s. 13.4 (1962), 317—334.

Coarelli, F., Su alcuni vetri dipinti scoperti nella Germania Indipendente e sul commercio alessandrino in Occidente nei primi due secoli dell'Impero, ArchClass 15 (1963), 61—85.

Coarelli, F., The Bronze Handles of Chārsada, E&W n. s. 16.1/2 (1966), 94—108.

Codrington, H. W., Ceylon Coins and Currency, Memoirs of the Colombo Museum, Series A, no. 3 (Colombo 1924).

Codrington, K. de B., The Basis of Coinage, BIAL 6 (1966), 15—28.

Coedès, G., La légende de la Nāgī, BEFEO 11 (1911), 391—393.

Coedès, G., The Excavations at P'ong Tük and their Importance for the Ancient History of Siam, JSS 21.3 (1928), 195—209.

Coedès, G., Les inscriptions malaises de Çrīvijaya, BEFEO 30 (1930), 29—80.

Coedès, G., The Date of the Sanskrit Inscription of Vo-canh (South Annam), IHQ 16.3 (1940), 404—408.

Coedès, G., Fouilles en Cochinchine: Le site de Go Oc Eo, Ancien port du royaume de Fou-nan, Artibus Asiae 10.3 (1947), 193—199.

Coedès, G., Some Problems in the Ancient History of the Hinduized States of South-East Asia, JSEAH 5.2 (1964), 1—15.

Coedès, G., A Possible Interpretation of the Inscription at Kedukan Bukit (Palembang), in: J. Bastin and R. Roolvink (eds.), Malayan and Indonesian Studies, Essays presented to Sir Richard Winstedt on his eighty-fifth birthday (Oxford 1964), 24—32.

Coedès, G., The Indianized States of Southeast Asia^3, translated by S. B. Cowing (Honolulu 1968).

Colani, M., Mégalithes du Haut-Laos, 2 vols. (Paris 1935).

Colin, G., Rome et la Grèce de 200 à 146 av. J.C., BEFAR 94 (Paris 1905).

Colin, J., Luxe oriental et parfums masculins dans la Rome alexandrine (d'après Cicéron et Lucrèce), RBPh 33 (1955), 5—19.

Colin, J., La Galilée de l'Évangile et les villes paiénnes de la Palestine, AC 34 (1965), 183—192.

Collart, P., and Jouguet, P., Petites recherches sur l'économie politique des Lagides, Raccolta di scritti in onore di Giacomo Lumbroso (Milan 1925), 109—134.

Collart, P., Nouveau monument palmyrénien de Shadrafa, MH 13 (1956), 209—215.

Collart, P., Le sanctuaire de Baalshamin à Palmyre, AAS 7 (1957), 67—90.

Collart, P., and Vicari, J., Le sanctuaire de Baalshamin à Palmyre, vol. 1: Topographie et architecture, BHR 10.1 (Rome 1969).

Colledge, M. A. R., The Parthians (London 1967).

Colless, B. E., The Early Western Ports of the Malay Peninsula, MJTG 29 (1969), 1—9.

Colless, B. E., The Traders of the Pearl. The Mercantile and Missionary Activities of Persian and Armenian Christians in South-East Asia, Abr-Nahrain 9 (1969/70), 17—38; 10 (1970/71), 102—114; 13 (1972/73), 115—135.

Collings, H. D., Report of an Archaeological Excavation in Kedah, Malay Peninsula, BRM B ser. 1.1 (1936), 5—16.

Collings, H. D., Recent Finds of Iron-Age Sites in Southern Perak and Selangor, Federated Malay States, BRM B ser. 1.2 (1937), 75—93.

Collings, H. D., An Excavation at Bukit Chaping, Perlis, BRM B ser. 1.2 (1937), 94—119.

Comfort, H., Some Imported Pottery at Khor Rori (Dhofar), BASOR 160 (1960), 14—20.

Condamin, J., and Picon, M., Changes Suffered by Coins in the Course of Time and the Influence of these on the Results of Different Methods of Analysis, in: E. T. Hall and D. M. Metcalf (eds.), Methods of Chemical and Metallurgical Investigation of Ancient Coinage (London 1972), 49—66.

Connah, G. E., Radiocarbon Dates for Benin City and Further Dates for Daima, N.E. Nigeria, JHSN 4 (1968), 313—320.

Conrady, A., Die chinesischen Handschriften und sonstigen Kleinfunde Sven Hedins in Lou-lan (Stockholm 1920).

Conti Rossini, C., Les listes des rois d'Aksoum, JA 10 ser. 14 (1909), 263—320.

Conti Rossini, C., Monete Sud-Arabiche, RAL 30 (1921), 239—255.

Conti Rossini, C., Expéditions et possessions des Habašāt en Arabie, JA 11 ser. 18 (July—Sept. 1921), 5—36.

Conti Rossini, C., Monete aksumite, Africa Italiana 1 (1927), 179—212.

Conti Rossini, C., Storia d'Etiopia, vol. 1: Dalle origini all'avvento della dinastia Salomonide, Africa Italiana 3 (Milan 1928).

Cook, J. M., The Greeks in Ionia and the East (New York 1963).

Cook, S., Obsolete 'Anti-Market' Mentality: A Critique of the Substantive Approach to Economic Anthropology, AmerAnthro 68 (1966), 323—345.

Cooke, G. A., A Text-Book of North-Semitic Inscriptions (Oxford 1903).

COPE, L. H., Roman Imperial Silver Coinage Alloy Standards: The Evidence, NC 7 ser. 7 (1967), 107—131.

COPE, L. H., The Argentiferous Bronze Alloys of the Large Tetrarchic Folles of A.D. 284—307, NC 7 ser. 8 (1968), 115—149.

COPE, L. H., The Nadir of the Imperial Antoninianus in the Reign of Claudius II Gothicus, A.D. 268—270, NC 7 ser. 9 (1969), 145—161.

COPE, L. H., The Metallurgical Analysis of Roman Imperial Silver and Aes Coinage, in: E. T. HALL and D. M. METCALF (eds.), Methods of Chemical and Metallurgical Investigation of Ancient Coinage (London 1972), 3—47.

COPE, L. H., The Complete Analysis of a Gold Aureus by Chemical and Mass Spectrometric Techniques, in: E. T. HALL and D. M. METCALF (eds.), Methods of Chemical and Metallurgical Investigation of Ancient Coinage (London 1972), 307—313.

CORBISHLEY, S. J., A Note on the Date of the Syrian Governorship of M. Titius, JRS 24 (1934), 43—49.

CORNWALL, P. B., On the Location of Dilmun, BASOR 103 (1946), 3—11.

CORNWALL, P. B., Ancient Arabia: Explorations in Hasa, 1940—1941, GJ 107. 1/2 (1946), 28—50.

CORNWALL, P. B., Two Letters from Dilmun, JCS 6.4 (1952), 137—145.

COSTA, E., Storia delle fonti del diritto Romano (Rome 1909).

COURT, M., Further Information Regarding the Topes or Tumuli at Manikyâla, JASB 3 (1834), 556—562.

COURT, M., Further Information on the Topes of Manikyala, in: J. PRINSEP (ed.), Essay on Indian Antiquities, Historic, Numismatic and Palaeographic (London 1858), 138—141.

COUYAT, J., La route de Myos—Hormes et les carrières de porphyre rouge, BIFAO 7 (1909), 15—33.

COUYAT, J., Ports gréco-romains de la Mer Rouge et grandes routes du Désert Arabique, CRAI (1910), 525—542.

COUYAT, J., Description du desert de Siout à la mer Rouge, d'après un manuscript de la Bibliothèque royale de Turin, BIFAO 9 (1911), 137—184.

COUYAT, J., Relation d'une course faite pour reconnaître une partie du desert et des montagnes à l'est de Siouth, BIFAO 10 (1912), 1—27.

COWLEY, A. E., The Pahlavi Documents from Avroman, JRAS (1919), 147—154.

COWLEY, A. E., Aramaic Papyri of the Fifth Century B.C. (Oxford 1923).

COX, D. H., A Third Century Hoard of Tetradrachms from Gordion (Philadelphia 1953).

COX, D. H., Gordion Hoards III, IV, V and VII, ANSMN 12 (1966), 19—55.

CRANE, M., Preliminary Report on Takht-i-Sulayman: The Significance of the Site, BAIIAA 5.2 (1973), 84—91.

CRAWFORD, D. J., Kerkeosiris: An Egyptian Village in the Ptolemaic Period (Cambridge 1971).

CRAWFORD, D. J., The Opium Poppy: a Study in Ptolemaic Agriculture, in: Problèmes de la terre en Grèce ancienne, sous la direction de M. I. FINLEY (Paris 1973).

CRAWFORD, M. H., Plated Coins — False Coins, NC 7 ser. 8 (1968), 55—59.

CRAWFORD, M. H., Coin Hoards and the Pattern of Violence in the Late Republic, PBSR 37 (1969), 76—81.

CRAWFORD, D., Garlic-Growing and Agricultural Specialization in Graeco-Roman Egypt, CE 48 (1973), 350—361.

CRAWFORD, M. H., Roman Republican Coinage, 2 vols. (Cambridge 1974).

CRAWFORD, M. H., and REYNOLDS, J., The Publication of the Prices Edict: A New Inscription from Aezani, JRS 65 (1975), 160—163.

CREEL, H. G., The Role of the Horse in Chinese History, AHR 70.3 (1965), 647—672.

CRESSEY, G. B., The Shatt al-Arab Basin, MEJ 12 (1958), 448—460.

CRINITI, N., Supplemento alla prosopografia dell'esercito romano d'Egitto da Augusto a Diocleziano, Aegyptus 53 (1973), 93—158.

CRIŞAN, I. H., Contribuţii la problema lucrării podoabelor dacice, AMN 6 (1969), 93—106.

CROOK, J., Consilium Principis. Imperial Councils and Counsellors from Augustus to Diocletian (Cambridge 1955).

Crouch, D. P., Use of Aerial Photography at Palmyra: A Photo Essay, Berytus 23 (1974), 71—104.

Crowfoot, J. W., Some Red-Sea Ports in the Anglo-Egyptian Sudan, GJ 37.5 (1911), 523—551.

Cüppers, H., Ein römisches Pseudo-Diatretglas aus Bavai, TZ 27 (1964), 160—162.

Culică, V., Moneda măruntă romano-bizantină din secolul al V-lea e. n. şi unele replici în plumb de la Izvoarele, jud. Constanţa, Pontica 5 (1972), 267—300 (Ger. rés.).

Cummings, R., A Note on the History of Caravan Porters in East Africa, KHR 1.2 (1963), 109—138.

Cumont, F., Les fouilles de Ṣâliḥîyeh sur l'Euphrate, in: Les travaux archéologiques en Syrie de 1920 à 1922 (Paris 1923), 55—75.

Cumont, F., Fouilles de Doura-Europos (1922—1923), BAH 9 (Paris 1926).

Cumont, F., Nouvelles inscriptions grecques de Suse, CRAI (1930), 208—220.

Cumont, F., Inscriptions grecques de Suse, CRAI (1931), 233—250.

Cumont, F., Nouvelles inscriptions grecques de Suse, CRAI (1932), 271—286.

Cumont, F. (with M. Holleaux and L. Robert), Une lettre du roi Artaban III à la ville de Suse, CRAI (1932), 238—260.

Cumont, F., L'Égypte des astrologues (Bruxelles 1937).

Cumont, F., Portrait d'une reine parthe trouvé à Suse, CRAI (1939), 330—341.

Cunningham, A., Correction of a Mistake Regarding Some of the Roman Coins Found in the Tope at Manikyala Opened by M. Court, JASB 31 (1834), 635—637.

Cunningham, A., The Coins of Alexander's Successors in the East, NC n. s. 12 (1872), 157—185.

Cunningham, A., The Coins of Alexander's Successors in the East (Conclusion), NC n. s. 13 (1873), 187—219.

Cunningham, A., Coins of the Sakas, NC 3 ser. 10 (1890), 103—172.

Cunningham, A., Coins of the Kushâns, or Great Yue-Ti, NC 3 ser. 12 (1892), 40—82.

Cunningham, A., Mahabodhi, or the Great Buddhist Temple under the Bodhi Tree at Buddha-Gaya (London 1892).

Cuntz, O., Zum Briefwechsel des Plinius mit Traian, Hermes 61 (1926), 192—207.

Cureton, W., Ancient Syriac Documents (London 1864, repr. Amsterdam 1967).

Curiel, R., and Schlumberger, D., Trésors monétaires d'Afghanistan, MDAFA 14 (Paris 1953).

Curiel, R., Inscriptions de Surkh-Kotal, JA 242 (1954), 189—205.

Curle, A. T., The Ruined Towns of Somaliland, Antiquity 11 (1937), 315—327.

Cutroni, A. T., Ripostiglio di ventisei denari d'Argento, AIIN 5/6 (1958/59), 185—188.

Cutroni, A. T., Ripostiglio di denari repubblicani ed imperiali, AIIN 5/6 (1958/59), 188—191.

Cutroni, A. T., Ripostiglio di trentaquattro denari repubblicani ed imperiali, AIIN 5/6 (1958/59), 191—194.

Dabrowska-Smektala, E., Polish Excavations in Egypt and the Sudan in the Season 1969—1970, AfrBull 14 (1971), 166—171.

Daffinà, P., The Early Spread of Christianity in India: An Old Problem Re-examined, E&W n. s. 9.3 (1958), 187—191.

Daffinà, P., L'immigrazione dei Saka nella Drangiana, MemIsMEO 9 (Rome 1967).

Daffinà, P., La migrazione dei Wu-sun, RSO 44.2 (1969), 143—155.

Daffinà, P., Chih-Chih Shan-yü: Addenda, RSO 44.4 (1969), 325.

Daffinà, P., Postille alla storia degli Hsiung-nu, RSO 45.1/2 (1970), 115—122.

Daffinà, P., The Return of the Dead, E&W n. s. 21 (1971), 87—91.

Dahl, O. C., Le système phonologique du Proto-Malgache, NTS 10 (1938), 189—235.

Dahl, O. C., Malgache et maanjan: Une comparaison linguistique (Oslo 1951).

Dahlgren, P., Nearchos — Onesikritos, Eranos 24.3/4 (1926), 183—188.

Dales, G. F., Harappan Outposts on the Makran Coast, Antiquity 36 (1962), 86—92.

Dalton, G., A Note of Clarification on Economic Surplus, AmerAnthro 62 (1960), 483—490.

Dalton, G., Economic Surplus, Once Again, AmerAnthro 65 (1963), 388—394.

Dalton, G., Economic Anthropology and Development (New York/London 1971).

Dalton, G., Karl Polanyi's Analysis of Long-Distance Trade and his Wider Paradigm, in: J. A. Sabloff and C. C. Lamberg-Karlovsky (eds.), Ancient Civilization and Trade (Albuquerque 1975), 63—132.

Damais, L. C., Les écritures d'origine indienne en Indonésie et dans le Sud-Est Asiatique continental, BSEI n.s. 30.4 (1955), 365—382.

Dames, L., The Date of Kanishka, JRAS (1913), 953—960.

Dandamayev, M., Foreign Slaves on the Estates of the Achaemenid Kings and their Nobles, XXV International Congress of Orientalists. Papers presented by the USSR Delegation (Moscow 1960).

Dandamayev, M. A., Politische und wirtschaftliche Geschichte, in: G. Walser (ed.), Beiträge zur Achämenidengeschichte, Historia Einzelschr. 18 (Wiesbaden 1972), 15—58.

Dandamayev, M. A., Rol' tamkara v Babylonii II i I tys. do n. e., in: Drevnii Vostok, goroda i torgovlia (III—I tys. do n. e.), (Erevan 1973), 65—77.

Danelius, F., and Steinitz, H., The Fishes and Other Aquatic Animals on the Punt Reliefs at Deir El-Baḥri, JEA 53 (1967), 15—24.

Dani, A. H., Punch-Marked Coins and the Evidence from Taxila, JNSI 17.2 (1955), 27—29.

Dani, A. H., Sanghao Cave Excavations: The First Season 1963, Ancient Pakistan 1 (1964), 1—50.

Dani, A. H., Shaikhun Dheri Excavation (1963 and 1964 Season), Ancient Pakistan 2 (1965—1966), 17—214.

Dani, A. H., The Date of Kaniṣka, in: A. L. Basham (ed.), Papers on the Date of Kaniṣka (Leiden 1968), 57—66.

Dani, A. H., Radio-Carbon Evidence of the Dating of Kaniṣka, in: A. L. Basham (ed.), Papers on the Date of Kaniṣka (Leiden 1968), 436—437.

Dani, A., and Khan, F., Kushan Civilisation in Pakistan, in: Proc. of the International Conf. on the Hist. Arch. and Culture of Central Asia in the Kushan Period, Dushanbe, Sept. 27—Oct. 6, 1968 (Moscow 1974), 95—106.

Daniels, C., The Garamantes of Fezzan: Excavations on Zinchecra 1965—1967, AntJ 50 (1970), 37—66.

Dar, M. B. L., A New Silver Coin of Huvishka, JNSI 2 (1940), 113.

Darian, S., The Economic History of the Ganges to the End of Gupta Times, JESHO 13 (1970), 62—87.

Daris, S., Note per le storia dell'esercito Romano in Egitto, Aegyptus 36 (1956), 235—246.

Daris, S., Dai papiri inediti della Raccolta Milanese, Aegyptus 37 (1957), 89—103.

Daris, S., Su alcuni ostraca militari, Aegyptus 43 (1963), 264—268.

Daris, S., Due note, BASP 5.4 (1968), 133—134.

Darmon, J. P., Note sur le Tarif de Zarai, CT 12 (1964), 7—23.

d'Arms, J. H., CIL X.1792: A Municipal Notable of the Augustan Age, HSCPh 76 (1972), 207—216.

d'Arms, J. M., Puteoli in the Second Century of the Roman Empire: A Social and Economic Study, JRS 64 (1974), 104—124.

Das, G. N., Coins from Indian Megaliths, BDCRI 8.3/4 (1947), 205—208.

Das, M. A., Determination of Gold Content of Electrum Coins in Specific Gravity, JMP 49 (1962), 65—68.

Das, S. R., Rājbāḍīdāngā: 1962 (Chiruṭī: Jadupur). An Interim Report on Excavations at Rājbāḍīdāngā and Terracotta Seals and Sealings, Asiatic Society Monograph, no. 14 (Calcutta 1968).

Dasgupta, K. K., The Audumbaras, in: Calcutta Sanskrit College Research Series, no. XLIV, Studies no. 26 (Calcutta 1965).

Dasgupta, K. K., The Mālavas, in: Calcutta Sanskrit College Research Series, no. L, Studies no. 29 (Calcutta 1965).

Datoo, B. A., Rhapta: The Location and Importance of East Africa's First Port, Azania 5 (1970), 65—75.

Datoo, B. A., Misconceptions about the Use of Monsoons by Dhows in East African Waters, EAGR 8 (1970), 1—10.

Dattari, G., Monete imperiali greche. Num. Augg. Alexandri (Cairo 1901).

Dattari, G., Appunti di numismatica alessandrina. Saggio storico sulla monetazione dell'Egitto dalla caduta dei Lagidi all'introduzione delle monete con leggenda latina, RIN 15 (1902), 407—437; 16 (1903), 11—35, 263—327.

Dattari, G., Sur l'époque où furent frappées en Égypte les premières monnaies de la réforme de Dioclétien, RN 4 ser. 8 (1904), 394—399.

Dattari, G., Comments on a Hoard of Athenian Tetradrachms Found in Egypt, JIAN 8 (1905), 103—113.

Dattari, G., Monete trovate nella necropoli di Sciatbi, BSRAA 8 (1905), 101—106.

Dattari, G., Piccolo ripostiglio di denari rinvenuto in Egitto, Rassegna Numismatica 3 (1906), 58—60.

Dauvillier, J., L'Expansion de l'Église Syrienne en Asie Centrale et en Extrême-Orient, L'Orient Syrien 1 (1956), 76—87.

Davary, G. D., and Humbach, H., Eine weitere aramäoiranische Inschrift der Periode des Asoka aus Afghanistan, AAWM (1974), no. 1.

Davary, G. D., Die Ruinenstadt Bost am Helmand, AcIr 2 ser. 1 (1975) = Monumentum H. S. Nyberg, vol. 1, 201—208.

Davidovich, E. A., Neopublikovannye monetnye nakhodki na territorii Uzbekistana, TIIAANUzSSR 7 (1955), 155—174.

Davidovich, E. A., and Litvinskii, B. A., Arkheologicheskii Ocherk Isfarinskogo raiona, TIIANTadzhSSR 35 (Stalinabad 1955).

Davidovich, E. A., Monetnye nakhodki na territorii Tadzhikistana v 1954 g., TIIANTadzhSSR 37 (1956), 95—103.

Davidovich, E. A., Monetnye nakhodki na territorii Tadzhikistana v 1954 g., TIIANTadzhSSR 41 (1959), 171—179.

Davidovich, E. A., Denezhnoe khozyaiistvo i chastichnoe vosstanovlenie torgovli v Srednei Azii posle mongolskogo nashestviia XIII v. (po numizmaticheskim istochnikam), NAA 6 (1970), 57—67.

Davids, T. W. R., What has Buddhism Derived from Christianity?, JPTS (1920/23), 32—53.

Davidson, J. M., Archaeology in Samoa and Tonga, NNZZA 8.2 (1965), 59—71.

David-Weill, J., Une coupe d'argent de style sassanide au Musée du Louvre, MonPiot 45 (1951), 117—121.

Davies, O., Roman Mines in Europe (Oxford 1935).

Davies, R. W., Some Notes on Military Papyri from Dura, BASP 5.1 (1968), 31—34.

Davies, R. W., Optatus and the Roman Army: P. Lond. 2851.1—22, BASP 5.4 (1968), 121—128.

Davies, R. W., The Roman Military Medical Service, SJ 27 (1970), 84—104.

Davies, R. W., The Enlistment of Claudius Terentianus, BASP 10 (1973), 21—25.

Davies, R. W., Minicius Iustus and a Roman Military Document from Egypt, Aegyptus 53 (1973), 75—92.

Davies, R. W., A Report of an Attempted Coup, Aegyptus 54 (1974), 179—196.

Davis, R., Merchant Shipping in the Economy of the Late Seventeenth Century, EHR 2 ser. 9 (1956/57), 59—73.

Davison, C. C., and Clark, J. D., Trade Wind Beads: An Interim Report of Chemical Studies, Azania 9 (1974), 75—86.

Davydov, M. M., The Ob' will Enter the Caspian: The Yenisey-Ob'-Aral-Caspian-Water Connection and the Energy Problem, SovGeog 13.9 (1972), 603—617.

Davydova, A. V., and Shilov, V. P., K voprosu o zemledelii u gunnov, VDI (1953), 2. 193—201.

Davydova, A. V., Ivolginskoe gorodishche (k voprosu o gunnskikh poseleniiakh v Zabaikal'e), SA 25 (1956), 261—300.

Day, F. E., Aristotle: τὰ βομβύκια, in: Studi orientalistici in onore di Giorgio Levi della Vida, Pubb. dell'Istituto per l'Oriente, vol. 1 (Rome 1956), 207—219.

Day, J., Agriculture in the Life of Pompei, YCS 3 (1932), 165—208.

Dayal, R. B. P., A New Hoard of Yaudheya Coins from Dehra Dun District, JNSI 2 (1940), 109—112.

Dayal, R. B. P., Presidential Address to the Annual Meeting of the Numismatic Society of India 1944, JNSI 6 (1944), 64—69.

Dayton, J., Money in the Near East before Coinage, Berytus 23 (1974), 41—52.

De, B. B., Epigraphic Accounts of the Numismatic History of Bengal, in: D. C. Sircar (ed.), Early Indian Indigenous Coins (Calcutta 1971), 141—146.

de Beauclair, I., 'Ken-pai', A Glass Bracelet from Yap, AC 5 (1961), 113—115.

de Beauclair, I., On Pottery of Micronesia, Palauan Lamps and Mediterranean Lamps in the Far East, BIEAS 21 (1966), 197—212.

Debets, G. F., Paleoantropologiia SSSR, TIE 4 (Moscow/Leningrad 1948).

Debevoise, N. C., A Political History of Parthia (Chicago 1938).

de Blois, L., Odaenathus and the Roman-Persian War of 252—264 A.D., ΤΑΛΑΝΤΑ 6 (1975), 7—23.

Debono, F., Expédition archéologique royale au Désert Oriental (Keft-Kosseir): Rapport préliminaire sur la campagne 1949, ASAE 51 (1951), 61—90.

de Boucheman, A., Note sur la rivalité de deux tribus moutonnières de Syrie. Les 'Mawali' et les 'Hadidiyn', REI 8 (1934), 11—58.

de Cardi, B., and Doe, D. B., Archaeological Survey in the Northern Trucial States, E&W n. s. 21.3/4 (1971), 225—289.

de Casparis, J. G., New Evidence on Cultural Relations between Java and Ceylon in Ancient Times, Artibus Asiae 24.3/4 (1961), 241—248.

de Contenson, H., Les fouilles archéologiques en Éthiopie de 1956 à 1959, CRAI (1959), 250—255.

de Contenson, H., Aperçus sur les fouilles à Axoum et dans la région d'Axoum, en 1958 et 1959, Annales d'Éthiopie 3 (1959), 101—104.

de Contenson, H., Les premiers rois d'Axoum d'après les découvertes récentes, JA 248 (1960), 75—95.

de Contenson, H., Les monuments d'art sud-arabe découverts sur le site de Haoulti (Éthiopie) en 1959, Syria 39 (1962), 64—87.

de Francovich, G., La brocca d'Oro del tesoro della chiesa di Saint Maurice d'Agaune nel Vallese e i tessuti di Bisanzio e della Siria nel periodo iconoclastico, in: Arte in Europa, Scritti di Storia dell'Arte in onore di Edoardo Arslan (Paris 1966), 1.133—175.

de Francovich, G., Problems of Achaemenid Architecture, E&W n.s. 16 (1966), 201—260.

Degen, R., Die aramäischen Inschriften aus Taima und Umgebung, NESE 2 (1974), 79—98.

Degen, R., Die hebräische Inschrift DJE 23 aus dem Jemen, NESE 2 (1974), 111—116.

Degen, R., Noch einmal: die hebräische Inschrift DJE 23 aus dem Jemen, NESE 2 (1974), 166—167.

Degrassi, A., Fu Traiano a rinunciare alla Mesopotamia ?, RFIC 14 (1936), 410—411.

de Groot, J. J. M., Chinesische Urkunden zur Geschichte Asiens, vol. I: Die Hunnen der vorchristlichen Zeit (Berlin/Leipzig 1921).

de Groot, J. J. M., Chinesische Urkunden zur Geschichte Asiens, vol. II: Die Westlande Chinas in der vorchristlichen Zeit (Berlin/Leipzig 1926).

Dehejia, V., Begram Ivories and Indian Stones, Marg 24.3 (1971), 31—45.

Dehkan, A., The Relationship of the Kushan and the Parthian Empire, in: Proc. of the International Conf. on the Hist. and Culture of Central Asia in the Kushan Period, Dushanbe, Sept. 27—Oct. 6, 1968, I (Moscow 1974), 113—117.

de Laet, S. J., Portorium. Étude sur l'organisation douanière chez les Romains, surtout à l'époque du Haut-Empire (Brugge 1949).

de Laet, S. J., L'évolution de l'administration douanière au Haut-Empire et les sources juridiques, RIDA 2 (1949), 215—221.

Delauney, J. A., L'Araméen d'Empire et les debuts de l'écriture en Asie Centrale, AcIr 1 ser. 2 (1974) = Commémoration Cyrus: Actes du Congrès de Shiraz 1971 et autres études rédigées à l'occasion du 2500e anniversaire de la fondation de l'Empire Perse, Hommage Universel, vol. 2, 219—236.

de la Vallée-Poussin, L., L'Inde aux temps des Mauryas et des barbares, Grecs, Scythes, Parthes et Yue-Tchi (Paris 1930).

de la Vallée-Poussin, L., Dynasties et histoire de l'Inde depuis Kanishka jusqu'aux invasions musulmanes (Paris 1935).

Delbrueck, R., Südasiatische Seefahrt im Altertum, BJ 155/156 (1955/56), 8—58; 229—308.

de Menasce, J. P., L'inscription funéraire pehlevie d'Istanbul, Iranica Antiqua 7 (1967), 59—71.

de Menasce, J. P., A propos d'une inscription araméenne d'Aśoka, IOS 2 (1972), 290—292.

de Morgan, M. J., Note sur la succession des princes mazdéens, CRAI (1920), 132—140.

Demougeot, E., Le chameau et l'Afrique du Nord romaine, Annales (ESC) 15.2 (1960), 209—247.

Dening, G. M., The Geographical Knowledge of the Polynesians and the Nature of Inter-Island Contact, in: J. Golson (ed.), Polynesian Navigation: A Symposium on Andrew Sharp's Theory of Accidental Voyages, JPS Supplement, Memoir no. 34 (Wellington 1963), 102—153.

Deo, P. K., Forgotten Forts of Kalrahandi (Part I), Asurgarh Fort and a Hoard of Punch-Marked Coins, OHRJ 14.3/4 (1966), 25—33, 42—60.

Deo, S. B., Another Ship-Type Coin of Yajña Sātakarṇi, JNSI 24 (1962), 174—175.

Deo, S. B., A New Coin Type of Sri Satakarni, in: D. C. Sircar (ed.), Early Indian Indigenous Coins (Calcutta 1971), 111—112.

Deo, S. B., The Dating of Megaliths in Maharashtra: Evaluation of Some New Evidence, in: D. P. Agrawal and A. Ghosh (eds.), Radiocarbon and Indian Archaeology (Bombay 1973), 131—137.

de Oliveira, O. R., Breve noticia sobre la arqueología de Manica e Sofala, BSEM 32 (1963), 53—57.

Depeyrot, G., Problèmes de réutilisation des monnaies romaines à Cahors (Lot), BSFN 31.1 (1976), 11—12.

Dérendinger, General, Les curieuses mines de fer de Télé-Nugar (Tchad), JSA 6 (1936), 197—204.

de Ricci, S., Bulletin épigraphique de l'Égypte romaine (Inscriptions grecques 1896—1902), APF 2 (1902—1903), 427—452.

de Roover, R., The Rise and Decline of the Medici Bank, 1397—1494 (New York 1966).

Derrett, J. D. M., The History of Palladius on the Races of India and the Brahmans, C&M 21 (1960), 64—99.

de Ste. Croix, G. E. M., The Origins of the Peloponnesian War (Ithaca 1972).

de Saint-Denis, E., La vitesse des navires anciens, RA 6 ser. 18 (1941), 121—138.

Desanges, J., Note sur la datation de l'expédition de Julius Maternus au pays d'*Agisymba*, Latomus 23.4 (1964), 713—725.

Desanges, J., Les territoires Gétules de Juba II, REA 66 (1964), 33—47.

Desanges, J., Une mention altérée d'Axoum dans l'Expositio totius mundi et gentium, Annales d'Éthiopie 7 (1967), 141—155.

Desanges, J., Le statut et les limites de la Nubie romaine, CE 44 (1969), 139—147.

Desanges, J., Les chasseurs d'éléphants d'Abou-Simbel, Actes du 92e Congrès National des Sociétés Savantes, Strasbourg et Colmar, 1967, Section d'Archéologie (Paris 1970), 31—50.

Desanges, J., Les relations de l'Empire Romain avec l'Afrique nilotique et erythréenne, d'Auguste à Probus, in: H. Temporini (ed.), ANRW II, 10 (in press).

Deschamps, H., Histoire de Madagascar^2 (Paris 1969).

Desiatchikov, Iu. M., Poiavlenie katafraktariev na Bospore, in: Spornik dokladov na IX i X vsesoiuznykh arkheologicheskikh studencheskikh konferentsiiakh (Moscow 1968), 44—50.

Despande, M. N., Śatavāhana Coins from Ter, INC 3.2 (1969), 161—166.

Dessau, H., Der Steuertarif von Palmyra, Hermes 19 (1884), 486—533.

Desvernos, J., Banques et banquiers dans l'ancienne Égypte, BSAA 6.3 (1928), 303—348.

Detienne, M., Les Jardins d'Adonis (Paris 1972).

Detlefsen, D., Die Geographie Afrikas bei Plinius und Mela und ihre Quellen. Die formulae provinciarum, eine Hauptquelle des Plinius, Quellen u. Forsch. zur alten Geschichte u. Geographie, H. 14 (Berlin 1908).

Deva, K., Coin Devices on Rajghat Seals, JNSI 3 (1941), 73—77.

Deva, K., Hoard of Punch-Marked Silver Coins from Rajgir Excavations, INC 3.2 (1964), 135—143.

Devendra, D. T., The Date of the Anurādhapura Cross, JCBRAS n. s. 5 (1956), 85—89.

de Villard, U. M., The Fire Temples, BAIPAA 5.4 (1936), 175—184.

de Vogüe, Inscriptions palmyréniennes inédites, JA 8 ser. 2 (1883), 149—183.

de Vogüe, Inscriptions palmyréniennes inédites, JA 8 ser. 1 (1883), 231—245.

de Vogüe, Note additionnelle aux inscriptions palmyréniennes, JA 8 ser. 2 (1883), 549—550.

Devos, P., Actes de Thomas et Actes de Paul, AnalBoll 69 (1951), 119—130.

Devos, P., Égérie à Édesse. S. Thomas l'apôtre, le Roi Abgar, AnalBoll 85 (1967), 381—400.

Devos, P., La date du voyage d'Égérie, AnalBoll 85 (1967), 165—194.

Dewall, M. von, Pferd und Wagen im Frühen China, Saarbrücker Beiträge zur Altertumskunde (Bonn 1964).

Dez, J., Quelques réflexions sur les problèmes actuels de la linguistique malgache, BAM 34 (1956), 81—102.

Dez, J., Quelques hypothèses formulées par la linguistique comparée à l'usage de l'archéologie, Taloha 1 (1965), 197—214.

Dhavalikar, M. K., Development and Decline of the Deccan Chalcolithic, in: D. P. Agrawal and A. Ghosh (eds.), Radiocarbon and Indian Archaeology (Bombay 1973), 138—147.

Dhorme, P., Palmyre dans les textes assyriens, RB 33 (1924), 106—108.

Dickinson, R. W., The Archaeology of the Sofala Coast, SAAB 30.3/4 (1975), 84—104.

Dihle, A., Der fruchtbare Osten, RhM N.F. 105 (1962), 97—110.

Dihle, A., The Conception of India in Hellenistic and Roman Literature, PCPhS 190 (= n.s. 10), (1964), 15—23.

Dihle, A., Umstrittene Daten; Untersuchungen zum Auftreten der Griechen am Roten Meer, Wissenschaftliche Abhandlungen der Arbeitsgemeinschaft für Forschung des Landes Nordrhein-Westfalen 32 (Köln 1965).

Dihle, A., Der Seeweg nach Indien, Innsbrucker Beiträge zur Kulturwissenschaft, H. 4 (Innsbruck 1974), 5—12.

Dihle, A., Die entdeckungsgeschichtlichen Voraussetzungen des Indienhandels der römischen Kaiserzeit, in: H. Temporini (ed.), ANRW II 9.2 (Berlin/New York 1978), 546—580.

Dikshit, K. N., The Allakapar Evidence and the Painted Grey Ware Chronology, in: D. P. Agrawala and A. Ghosh (eds.), Radiocarbon and Indian Archaeology (Bombay 1973), 148—153.

Dikshit, M. G., Beads from Ahichchhatrā, U.P., AI 8 (1952), 33—63.

Dikshit, M. G., A Chinese Coin from Sirpur, JNSI 18.1 (1956), 64—66.

Dikshit, M. G., Studies in Ancient Indian Glass — I: Glass as Mentioned in Kautilya's Arthasastra, E&W n.s. 15. 1/2 (1964/1965), 62—68.

Dikshit, R. B. K. N., Presidential Address to the Annual Meeting of the NSI, 1945, JNSI 8 (1946), 1—6.

Dikshitar, V. R. R., The Silappadikāram (Oxford 1939).

Dikshitar, V. R. R., Southern India and China, SIS 2. 3/4 (1946/1947), 157—184.

Dilleman, L., Ammien Marcellin et les pays de l'Euphrate et du Tigre, Syria 38 (1961), 87—158.

Dilleman, L., Haute Mésopotamie Orientale et pays adjacents, BAH 72 (Paris 1962).

Diller, A., The Tradition of the Minor Greek Geographers, APA Monograph 14 (Lancaster, Pa. 1952).

Dillmann, A., Die Anfänge des Axumitischen Reiches, APAW (1878), 177—238.

Dillmann, A., Zu der Frage über die Abfassungszeit der Periplus maris erythraei, MPAW (1879), 413—429.

Dimitrova, A., A *Vas Diatretum* from Thrace, JGS 16 (1974), 14—17.

Diop, L.-M., Métallurgie traditionnelle et âge du fer en Afrique, BIFAN B ser. 30.1 (1968), 10—38.

Dirksen, H. E., Über ein in Justinian's Pandekten enthaltenes Verzeichnis ausländischer Waaren, von denen eine Eingangssteuer an den Zollstätten des römischen Reiches erhoben wurde, ADAW (1843), 59—108.

Diskalkar, D. B., Bamnālā (Holkar State) Find of Twenty-one Gold Coins of the Gupta Dynasty, JNSI 4 (1943), 135—144.

Dittmer, K., Zur Geschichte Afrikas, 2. Die ältere Geschichte Nordost- und Ostafrikas, Saeculum 15.1 (1964), 1—17.

Dittrich, E., Das Altai-Gold und China, ZDMG 111.2 (=N.F. 36), (1961), 498—511.

Dittrich, E., Das Motiv des Tierkampfes in der altchinesischen Kunst, Asiatische Forschungen 13 (Wiesbaden 1963).

Dixon, D. M., A Meroitic Cemetery at Sennar (Makwar), Kush 11 (1963), 227—234.

Dixon, D. M., The Transplantation of Punt Incense Trees in Egypt, JEA 55 (1969), 55—65.

Dixon, D. M., and Wachsmann, K. P., A Sandstone Statue of an Auletes from Meroë, Kush 12 (1969), 119—125.

Dobbins, K. W., A Note on the Hāritī Image from Skārah Dherī, Year 399, E&W n. s. 17 (1967), 268—272.

Dobbins, K. W., The Commerce of Kapisene and Gandhāra after the Fall of Indo-Greek Rule, JESHO 14.3 (1971), 286—302.

Dobbins, K. W., The Aṭhama Gold Coin and the Reign of Azes II, E&W n.s. 22. 1/2 (1972), 19—24.

Dobbins, K.W., Gandharan Art from Stratified Excavations, E&W n.s. 23. 3/4 (1973), 279—294.

Dobiaš, J., Novy nápis z Palmyreny, LF 58 (1931), 1—19; French rés. 481—482.

Dobiáš, J., Les premiers rapports des Romains avec les Parthes et l'occupation de la Syrie, ArchOr 3.2 (1931), 215—256.

Dobiaš, J., King Maroboduus as a Politician, Klio 38 (1960), 155—160.

Dobó, A., Die Verwaltung der römischen Provinz Pannonien von Augustus bis Diocletianus. Die provinziale Verwaltung (Amsterdam 1968).

Dodds, E. R., The Greeks and the Irrational (Berkeley 1966).

Doe, D. B., Pottery Sites near Aden, JRAS (1963), 150—162.

Doe, D. B., and Jamme, A., New Sabaean Inscriptions from South Arabia, JRAS (1968), 2—28.

Doe, D. B., Southern Arabia (London 1971).

Doe, D. B., Ancient Capitals from Aden, ArSt 1 (1974), 176—179.

Doe, B., Ḥuṣn al-Gurâb and the site of Q̣ana', Le Muséon 74 (1961), 191—198.

Domanskii, Ia. V., Zametki o Kharaktere torgovykh sviazei Grekov s Tuzemnym Mirom Severnogo Prichernomor'ia v. VII v. do n.e., AS 12 (1970), 47—53.

Domaszewski, A. von, Der Truppensold der Kaiserzeit, NHJ 10 (1900), 218—241.

Dombrowski, J., Preliminary Report on Excavations in Lalibela and Natchabiet Caves, Begemeder, Annales d'Éthiopie 8 (1970), 21—29.

Donner, H., and Röllig, W., Kanaanäische und aramäische Inschriften (Wiesbaden 1964).

Donner, H., Römische Straßenbauarbeiten in der nördlichen *belqa* zur Zeit des Kaisers Caracalla, 211—217 n. Chr., ZDPV 81 (1965), 46—49.

Donque, G., Le contexte océanique des anciennes migrations: vents et courants dans l'Océan Indien, Taloha 1 (1965), 43—59.

Doorselaer, A. von, Provinzialrömische Gräber mit Waffenbeigaben aus dem Rheinland und Nordfrankreich, SJ 21 (1963/64), 26—31.

Doppelfeld, O., Das neue Kölner Diatretglas, Germania 38 (1960), 403—417.

Doppelfeld, O., Das Diatretglas aus dem Gräberbezirk des römischen Gutshofs von Köln-Braunsfeld, KJVFG 5 (1960/61), 7—35.

Doppelfeld, O., Das Kölner Diatretglas und die anderen Netzdiatrete, Gymnasium 68.5 (1961), 410—424.

Doppler, H. W., Münzstempel und Münzgußformen aus Augst, SM 16 (1966), 18—23.

Doppler, H. W., Der Münzfund aus den gallorömischen Tempeln auf Schönbühl (Augst), in: E. Schmid, L. Berger and P. Bürgin (eds.), Provincialia. Festschrift für R. Laur-Belart (Basel 1968), 70—79.

Doppler, H. W., Die keltischen Münzen aus Baden (Schweiz), SM 23 (1973), 125—129.

Doresse, J., L'Éthiopie et l'Arabie méridionale, aux III^{e} et IV^{e} siècles A.D., d'après les découvertes récentes, Kush 5 (1957), 49—60.

d'Ors, A., P. Ryl. 654 y el 'Anabolicum', Studi in onore di Ugo Enrico Paoli (Firenze 1956), 259—267.

DOSTAL, W., Zur Frage der Entwicklung des Beduinentums, Archiv f. Völkerkunde 13 (1958), 1—14.

DOSTÁLOVÁ, R., Das Bild Indiens in den Dionysiaka des Nonnos von Panopolis, AAntHung 15 (1967), 437—450.

DOWNEY, G., Aurelian's Victory over Zenobia at Immae, A.D. 272, TAPhA 81 (1950), 57—68.

DOWNEY, G., A History of Antioch in Syria from Seleucus to the Arab Conquest (Princeton 1961).

DOWNEY, S. B., A Camel Procession from Dura-Europos, AAAS 20 (1970), 139—140.

DOWNS, J. F., The Origin and Spread of Riding in the Near East and Central Asia, AmerAnthro 63 (1961), 1193—1203.

DOYLE, E. J., Two New Fragments of the Edict of Diocletian on Maximum Prices, Hesperia 45.1 (1976), 77—97.

DRAGUNOVA, N. M., Klad rimskikh monet iz s. Matiushi Kievskoi oblasti, NS 2 (1965), 202—205.

DRAKE, F. S., China's North-West Passage. A Chapter in its Opening, JRASNCB 66 (1935), 40—49.

DRAKE, F. S., China's North-West Passage: The Struggle for the Tarim Basin in the Later Han Dynasty, JRASNCB 67 (1936), 147—159.

DRESSEL, H., Erwerbungen des Kgl. Münzcabinets in den Jahren 1890—1897, ZfN 21 (1898), 210—249.

DREW, W. J., Sinkiang: The Land and the People, CAR 16.3 (1968), 205—216.

DREW-BEAR, T., Some Greek Words: Part I, Glotta 50.1/2 (1972), 61—99.

DREW-BEAR, T., Latin Terms in Greek: A Discussion, CPh 71.4 (1976), 349—355.

DREWES, A. J., Nouvelles inscriptions de l'Éthiopie, BiOr 13. 5/6 (Sept/Nov. 1956), 179—182.

DREWES, A. J., Inscriptions de l'Éthiopie antique (Leiden 1962).

DRIJVERS, H. J., The Cult of Azizos and Monimos at Edessa, in: Ex orbe religionum: Studia Geo Widengren oblata, I (Leiden 1972), 355—371.

DRIVER, G. R., Aramaic Documents of the Fifth Century B.C. (Oxford 1954).

DRIVER, G. R., The Aramaic Papyri from Egypt: Notes on Obscure Passages, JRAS (1932), 77—90.

DRURY, C., Remarks on Some Lately-Discovered Roman Gold Coins, JASB 20 (1851), 371—387.

DSCHI, HIAN-LIN, On the Oldest Chinese Transliteration of the Name Buddha, SIS 3.1/2 (1948), 1—9.

DUBINS, B., The Comoro Islands: A Bibliographical Essay, AfrSB 12.2 (1969), 131—137.

DUBLER, C. E., Alte arabische Berichte über den fernen Osten, insbesondere das Kitāb 'Aǧā'ib al-Hind, 'Buch der Wunder Indiens', AsSt 8 (1954), 51—69.

DUBS, H. H., The History of the Former Han Dynasty by Pan Ku, Translation, 2 vols. (Baltimore 1938—1944).

DUBS, H. H., Wang Mang and his Economic Reforms, TP 2 ser. 35 (1939/1940), 219—265.

DUBS, H. H., An Ancient Military Contact between Romans and Chinese, AJPh 62 (1941), 322—330.

DUBS, H. H., An Ancient Chinese Stock of Gold, JEH 2 (1942), 36—39.

DUBS, H. H., A Roman Influence upon Chinese Painting, CPh 38 (1943), 13—19.

DUBS, H. H., The Reliability of Chinese Histories, FEQ 6.1 (1946), 23—43.

DUBS, H. H., A Military Contact between Chinese and Romans in 36 B.C., TP 2 ser. 36.1 (1948), 64—80.

DUBS, H. H., A Roman City in Ancient China (London 1957).

DUBY, G., Rural Economy and Country Life in the Medieval West (Columbia 1970).

DU MESNIL DU BUISSON, COMTE, Un bilingue araméen-grec de l'époque parthe à Doura-Europos, Syria 19 (1938), 147—152.

DU MESNIL DU BUISSON, COMTE, Inventaire des inscriptions Palmyréniennes de Doura-Europos (32 avant J.-C. à 256 après J.C.), (Paris 1939).

DU MESNIL DU BUISSON, COMTE, Les tessères et les monnaies de Palmyre (Paris 1962).

DU MESNIL DU BUISSON, COMTE, Première campagne de fouilles à Palmyre, CRAI (1966), 158—190.

Dunant, C., Nouvelle inscription caravanière de Palmyre, MH 13 (1956), 216—225.

Dunant, C., Le sanctuaire de Baalshamin à Palmyre, vol. 3: Les inscriptions, BHR 10.3 (Rome 1971).

Duncan-Jones, R., Equestrian Rank in the Cities of the African Provinces under the Principate: an Epigraphic Survey, PBSR 22 (1967), 147—189.

Duncan-Jones, R., The Economy of the Roman Empire. Quantitative Studies (Cambridge 1974).

Dundua, G. F., Sak artveloshi gavrp'elekhuli aleksandre makedonelisa da lisimakés sazalit' motchsili monetekh, Matsne (1973), 1. 51—65 (Russ. rés.).

Dunham, D., Notes on the History of Kush, AJA 50 (1946), 377—387.

Dunham, D., Outline of the Ancient History of the Sudan, V: The Kingdom of Kush at Napata and Meroe (750 B.C. to A.D. 350), SNR 28 (1947), 1—10.

Dunham, D., The Royal Cemeteries of Kush, IV: Royal Tombs at Merge and Barkal (Boston 1957).

Dunn, S. C., Notes on the Mineral Deposits of the Anglo-Egyptian Sudan (Khartoum 1911).

Du Plat Taylor, J., Marine Archaeology (New York 1966).

Dupont, P., Variétes archéologiques, I: Viṣnu mitrés de l'Indochine occidentale, BEFEO 41 (1941), 233—254.

Dupont-Sommer, A., Les inscriptions araméennes trouvées près du lac Sévan (Armenie), Syria 25 (1946/1948), 53—66.

Dupont-Sommer, A., Une inscription araméenne inédite de l'Ouâdi Hammâmât, RAssyr 41 (1947), 105—110.

Dupont-Sommer, A., Une plaquette d'argent à inscription araméenne. Collection de M. Foroughi, Iranica Antiqua 4.2 (1964), 119—132.

Dupont-Sommer, A., Une nouvelle inscription araméenne d'Aśoka trouvée dans la vallée du Laghman (Afghanistan), CRAI (1970), 158—173.

Dupree, L., Shamshir Ghar: Historic Cave Site in Kandahar Province, Afghanistan, APAMNH 46.2 (New York 1958).

Durand, J. D., The Population Statistics of China, A.D. 2—1953, PS 13.3 (1960), 209—256.

Dussaud, R., Inscription nabatéo-arabe d'En-Nemâra, RA 3 ser. 41 (1902), 409—424.

Dussaud, R., Numismatique des rois de Nabatène, JA 10 ser. 3 (1904), 189—238.

Dussaud, R., Sur le chemin de Suse et de Babylone, AIPHOS 4.1 = Mélanges F. Cumont (Bruxelles 1936), 143—150.

Dussaud, R., Note additionnelle, Syria 19 (1938), 152.

Dussaud, R., La pénétration des Arabes en Syrie avant l'Islam, BAH 59 (Paris 1955).

Duval, R., La loi fiscale de Palmyre, JA 8 ser. 2 (1883), 537—539.

Duyvendak, J. J. L., An Illustrated Battle-account in the History of the Former Han Dynasty, TP 2 ser. 34 (1936), 249—264.

Duyvendak, J. J. L., A Comment on an Illustrated Battle-Account in 35 B.C., TP 2 ser. 35 (1939), 211—215.

Duyvendak, J. J. L., China's Discovery of Africa (London 1949).

Dysen, I., Review of O. C. Dahl, Malgache et maanjan: Une comparaison linguistique, Oslo 1951, Language 29.4 (1953), 577—590.

D'iakonov, I. M., D'iakonov, M. M., and Livshits, V. A., Partianskii arkhiv iz drevnei Nisy, VDI (1953), 4. 114—130.

D'iakonov, I. M., D'iakonov, M. M., and Livshits, V. A., Parthian Administrative Documents from South Turkmenistan, in: Papers presented by the Soviet Delegation at the XXIII International Congress of Orientalists: Iranian, Armenian and Central Asian Studies (Moscow 1954), 94—102.

D'iakonov, I. M., and Starkova, K. B., Nadpisi Artaksiia (Artashesa I), Tsaria Armenii, VDI (1955), 2. 161—174.

D'iakonov, I. M., and Livshits, V. A., Parfianskoe Tsarskoe khoziaistvo v Nise i Veka do n. e., VDI (1960), 2. 14—38.

D'iakonov, I. M., and Livshits, V. A., Novye nakhodki dokumentov v Staroi Nise, in: Peredneaziatskii Sbornik 2 (1966), 134—157.

D'Iakonov, M. M., Arkheologicheskie raboty v nizhnem techenii reki Kafirnigana (Kobadian) (1950—1951 qq.), MIA (Moscow/Leningrad 1953), 253—293.

D'Iakonova, N. V., A Document of Khotanese Buddhist Iconography, Artibus Asiae 23 (1960), 229—231.

D'Iakonova, N. V., and Sorokii, S. S., Khotanskie drevnosti. Katalog khotanskikh drevnostei, khraniashchikhsia, v otdele vostoka gosudarstvennogo Ermitazha. Terrakota ishtuk (Leningrad 1960).

D'Iakonova, N. V., Materialy po kul'tovoi ikonografii Tsentral'noi Azii domusul'manskogo perioda, TGE 5 (1961), 257—272.

Eadie, J. W., The Development of Roman Mailed Cavalry, JRS 57 (1967), 161—173.

Eberhard, W., Kultur und Siedlung der Randvölker Chinas, TP Supplement 36 (Leiden 1942).

Eberhard, W., Die Beziehungen der Staaten der T'o-pa und der Sha-t'o zum Ausland, Ankara Üniversitasi Yilliği 2 (1948), 141—213.

Eberhard, W., Das Toba-Reich Nord Chinas (Leiden 1949).

Eberhard, W., Conquerors and Rulers. Social Forces in Medieval China (Leiden 1952).

Eberhard, W., The Origin of the Commoners in Ancient Tun-huang, Sinologica 4.3 (1955), 141—154.

Eberhard, W., Notes on the Population of the Tun-huang Area, Sinologica 4.2 (1956), 69—90.

Eberhard, W., The Leading Families of Ancient Tun-huang, Sinologica 4.4 (1956), 209—231.

Eberhard, W., Deception as a Political Tool in Ancient China, Veröffentlichungen des Museums für Völkerkunde zu Leipzig 11 (1961), 114—122.

Eberhard, W., Conquerors and Rulers. Social Forces in Medieval China, 2nd rev. ed. (Leiden 1965).

Eberhard, W., Review of Ying-shih Yü: Trade and Expansion in Han China (Berkeley 1967), JAS 27.3 (1968), 636—638.

Eck, W., M. Pompeius Silvanus, *Consul designatus tertium* — ein Vertrauter Vespasians und Domitians, ZPE 9.3 (1972), 259—275.

Ecsedy, H., Old Turkic Titles of Chinese Origin, AOrientHung18 (1965), 83—91.

Edakov, A. B., Novye nadpisi Akhemenidov, VDI (1976), 1. 91—97.

Edgar, J. H., The Romans of the Szechwan Marches, JWCBRS 5 (1932), 26.

Eerde, J. C. van, De oudste berichten omtrent den Indischen Archipel, TKNAG 45 (1928), 577—592.

Egami, Namio, The K'uai-T'i, the T'ao-Yu and the Tan-Hsi, the Strange Domestic Animals of the Hsiung-nu, MTB 13 (1951), 87—123.

Egeling, E., Mittelassyrische Rezepte zur Bereitung von wohlriechenden Salben, Orientalia n.s. 17 (1948), 129—145.

Eggermont, P. H. L., The Name of the People of the Besadae, AcOr 19.4 (1943), 281—290.

Eggermont, P. H. L., The Origin of the Saka-Era, IIJ 2 (1958), 225—228.

Eggermont, P. H. L., Kaniṣka, die Saka-Era und die Kharoṣṭhī-Inschriften, ZDMG 113.3 (1964), 559—564.

Eggermont, P. H. L., New Notes on Asoka and his Successors, Persica 2 (1965—1966), 25—70.

Eggermont, P. H. L., The Murundas and the Ancient Trade-Route from Taxila to Ujjain, JESHO 9.3 (1966), 257—296.

Eggermont, P. H. L., The Date of the Periplus Maris Erythraei, in: A.L. Basham (ed.), Papers on the Date of Kaniṣka (Leiden 1968), 94—96.

Eggermont, P. H. L., The Purāṇa Source of Meratunga, List of Kings and the Arrival of the Sakas in India, in: A. L. Basham (ed.), Papers on the Date of Kaniṣka (Leiden 1968), 67—86.

Ehlers, E., Klimageschichte und Siedlungsgang in vor- und frühgeschichtlicher Zeit in der Turkmenensteppe Nordpersiens, AMI N.F. 4 (1971), 7—19.

Eilers, W., Gesellschaftsformen im altbabylonischen Recht (Leipzig 1931).

Eilers, W., Akkad. Kaspum. Silber, Geld und Sinnverwandtes, Welt des Orients 2 (1957), 322—337.

EISSFELDT, O., Eine Einschmelzstelle am Tempel zu Jerusalem, FuF 13.13 (1937), 163—164.

EISSFELDT, O., Neue Belege für nabatäische Kultgenossenschaften, MIO 15.2 (1969), 217—227.

EITREM, S., Two Greek Papyri, in: Studies Presented to F. L. Griffith (London 1932), 214—217.

EKHOLM, G., Scandinavian Glass Vessels of Oriental Origin from the First to the Sixth Century, JGS 5 (1963), 29—37.

ELGAVISH, J., Ausgrabungen in Schikmona, dem heutigen Haifa, Raggi 9 (1969), 1—17.

ELISSEEFF, V., Les lacques chinois de Begram, in: J. HACKIN (ed.), Nouvelles recherches archéologiques à Begram, MDAFA 11 (Paris 1954), 151—155.

ELKISS, T. H., Kilwa Kisiwani: the Rise of an East African City-State, AfrStRev 16.1 (1973), 119—130.

ELLIOT, W., Coins of Southern India (London 1886, repr. Varanasi 1970).

EMERY, W. B., and KIRWAN, L. P., The Excavations and Survey between Wadi es-Sebua and Adindan, 1929—1931 (Mission archéologique de Nubie, 1929—1934), (Cairo 1935).

EMERY, W. B., The Royal Tombs of Ballana and Qustul, 2 vols. (Mission archéologique de Nubie 1924—1934) (Cairo 1938).

EMERY, W. B., Preliminary Report on the Excavations at North Saqqâra, 1968, JEA 55 (1969), 31—35.

ENGLAENDER, A. E., The Origin and Growth of Deserts and the Encroachment of the Desert in Northern China, JRASNCB 59 (1928), 146—168.

ENGLE, A., Galilee as a Center of Glassmaking in the Roman Period, RGH 1 (1973), 35—50.

ENGLE, A., 3000 Years of Glassmaking on the Phoenician Coast, RGH 1 (1973), 1—26.

ENGLE, A., Rabbi Hiyya the Elder — Halakhist and Travelling Salesman, RGH 4 (1974), 1—15.

ENOKI, K., Sogdiana and the Hsiung-nu, CAJ 1.1 (1955), 43—62.

ENOKI, K., Iwayuru Sino-Kharoṣṭhī sen ni tsuite, Tōyō gakuhō 42 (1959), 237—292, cf. RBS (1959), no. 391.

ENOKI, K., Yü-ni-ch'eng and the Site of Lou-lan, UAJ 33 (1961), 52—65.

ENOKI, K., Hsieh, Viceroy of the Yüeh-chih (A Contribution to the Chronology of the Kushans), in: Proc. of the International Conf. on the Hist. Arch. and Culture of Central Asia in the Kushan Period, Dushanbe Sept. 21—Oct. 6, 1968 (Moscow 1974), 265—274.

ENSSLIN, W., Review of E. H. WARMINGTON, The Commerce between the Roman Empire and India (Cambridge, 1928), PhW 50 (Jan. 4, 1930), 10—14.

ENSSLIN, W., Review of Yale Classical Studies, vol. 2 (1931), PhW 53 (March 11, 1933), 266—275.

ENSSLIN, W., Zur Ostpolitik des Kaisers Diokletian, SBAW (1942), 1. 5—83.

ENSSLIN, W., Zu den Kriegen des Sassaniden Shapur I., SBAW (1947), no. 5.

ENSSLIN, W., Zu Pap. Oxyrhynchus I 43 Recto, Aegyptus 32 (1952), 163—178.

ERDBERG-CONSTEN, E. VON, A Hu with Pictorial Decoration, Werner Jennings Collection, Palace Museum, Peking, ACASA 6 (1952), 18—32.

ERDBERG-CONSTEN, E. VON, Die Hui-hsien-Figuren und die Kunst der späten Chou-Zeit, OE 2.1 (1955), 1—11.

ERRERA, I., Collection d'anciennes étoffes égyptiennes (Bruxelles 1916).

ETIENNE, R., Rome eut-elle une politique douanière?, Annales (ESC) 7.3 (1952), 371—377.

ETTLINGER, E., Keramik-Datierungen der frühen Kaiserzeit, JSGUF 54 (1968/69), 69—72.

EUTING, J., Sinaitische Inschriften (Berlin 1891).

EUZENNAT, M., Grecs et Orientaux en Maurétanie tingitane, AntAfr 5 (1971), 161—178.

EUZENNAT, M., and SESTON, W., Un dossier de la Chancellerie romaine: la *Tabula Banasitana*. Étude de diplomatique, CRAI (1971), 468—490.

EVANS, A. (ed.), Francesco Balducci Pegolotti, La pratica della mercatura (Cambridge, Mass. 1936).

EVANS, I. H. N., Preliminary Report on the Exploration of a Rock-Shelter in the Batu Kurau Panish, Perak, JFMSM 9 (1920), 34—36.

EVANS, I. H. N., A Rock-Shelter at Gunorg Pondok, JFMSM 9 (1922), 267—270.

EVANS, I. H. N., Notes or the Remains of an Old Boat from Pontian, Pahang, JFMSM 12.4 (1927), 93—96.

EVANS, I. H. N., On Slab-built Graves in Perak, JFMSM 12 (1928), 111—119.

Evans, I. H. N., On Ancient Remains from Kuala Selinsing, Perak, JFMSM 12 (1928), 121—131.

Evans, I. H. N., Further Notes on Remains from Kuala Selinsing, Perak, JFMSM 12 (1928), 139—142.

Evans, I. H. N., Notes on Recent Finds of Kuala Selinsing, JFMSM 15 (1929), 25—27.

Evans, I. H. N., A Further Note on the Kuala Selinsing Settlement, JFMSM 12 (1929), 181—184.

Evans, I. H. N., A Search for Antiquities in Kedah and Perlis, JFMSM 15 (1931), 43—50.

Evans, I. H. N., Excavations of Nyong, Tembeling River, Pahang, JFMSM 15 (1931), 51—62.

Evans, I. H. N., A Further Slab-Built Grave at Sungkai, Perak, JFMSM 15 (1931), 63—64.

Evans, I. H. N., Excavations at Tanjong Rawa, Kuala Selinsing, Perak, JFMSM 15 (1932), 79—134.

Evans, J., On Some Rare or Unpublished Roman Coins, NC 4 ser. 2 (1902), 345—363.

Evans, J. A. S., and Welles, C. B., The Archives of Leon, JJP 7—8 (1953—1954), 29—70.

Everett, H. H., and Hewitt, J., A History of Santubong, an Island off the Coast of Sarawak, JSBRAS 52 (1909), 1—30.

Evers, T. M., Three Early Iron Age Sites in the N. E. Transvaal Lowveld, SAJS 69 (1973), 325.

Evers, T. M., Recent Iron Age Research in the Eastern Transvaal South Africa, SAAB 30.3/4 (1975), 71—83.

Fabricius, B., Der Periplus des erythräischen Meeres von einem Unbekannten (Leipzig 1883).

Fagan, B. M., Southern Africa During the Iron Age (London 1965).

Fagan, B. M., The Iron Age of Zambia, CA 7.4 (1966), 453—462.

Fagan, B. M., Early Iron Age Pottery in Eastern and Southern Africa, Azania 1 (1966), 101—110.

Fagan, B. M., and Yellen, J. E., Ivuna: Ancient Salt-Working in Southern Tanzania, Azania 3 (1968), 1—43.

Fagan, B. M., Early Trade and Raw Materials in South Central Africa, JAH 10.1 (1969), 1—13.

Fagan, B. M., Early Trade in South Central Africa, Archaeology 22.1 (1969), 44—50.

Fagan, B. M., Radiocarbon Dates for Sub-Saharan Africa, VI, JAH 10.1 (1969), 149—169.

Fagan, E., and Wright, A. F., Era Names and Zeitgeist, a Review Discussion, Asiatische Studien 5. 3/4 (1951), 113—121.

Fagg, A., A Preliminary Report on an Occupation Site in the Nok Valley, Nigeria: Samun Dukiya, AF/70/1, WAJA 2 (1972), 39—74.

Fahd, T., Conduite d'une exploitation agricole d'après l'agriculture Nabatéenne, StIs 32 (1970), 109—128.

Fairbank, J. K., and Teng, S. Y., On the Ch'ing Tributary System, HJAS 6 (1941—1942), 135—246.

Fairservis, W. A., Archaeological Studies in the Seistan Basin of Southwestern Afghanistan and Eastern Iran, APAMNH 48.1 (New York 1961).

Fakhry, A., A Report on the Inspectorate of Upper Egypt, ASAE 46 (1946), 25—61.

Fakhry, A., An Archaeological Journey to Yemen (March—May 1947), 3 vols. (Cairo 1951—1952).

Fang, A. (ed. G. W. Baxter), The Chronicle of the Three Kingdoms (220—265 A.D.): Chapters 69—78 from the Tzŭ Chih T'ung Chien of Ssŭ-ma Kuang (1019—1068), 2 vols. (Cambridge, Mass. 1952—1965).

Faucheaux, R. F., Une vieille cité indienne près de Pondichéry, Virapatnam (Pondichéry 1945).

Felber, R., Zur Bedeutung der Termini *shang* und *ku* — eine Betrachtung über den Charakter des Austauschs im alten China, MIO 10.2/3 (1964), 419—434.

Fellmann, R., Le Sanctuaire de Baalshamin à Palmyre, vol. 5: Die Grabanlage, BHR 10.5 (Rome 1970).

Ferdinand, K., Nomad Expansion and Commerce in Central Afghanistan: A Sketch of Some Modern Trends, Folk 4 (1962), 123—159.

FERENCZY, E., Die römisch-punischen Verträge und die Protohistorie des *commercium*, RIDA 16 (1969), 259—282.

FERGUSON, J., China and Rome, ANRW II 9.2 (Berlin/New York 1978), 581—603.

FERNALD, H. E., and SUTHERLAND, D. M., West, East, Bulletin of the Royal Ontario Museum of Archaeology 21 (1953), 2—60.

FERNALD, H. E., Chinese Art and the Wu-sun Horse, Annual, Art and Archaeology Division, ROM (Toronto) (1959), 24—31.

FERRAND, G., Les voyages des Javanais à Madagascar, JA 10 ser. 15 (1910), 281—330.

FERRAND, G., La plus ancienne mention du nom de l'île de Sumatra, JA 11 ser. 9 (1917), 331—335.

FERRAND, G., Le K'ouen-Louen et les anciennes navigations interocéaniques dans les mers du Sud, JA 11 ser. 13 (1919), 229—333.

FERRAND, G., Review of B. LAUFER, Sino-Iranica: Chinese Contribution to the History of Civilization in Ancient Iran with Special Reference to the History of Cultivated Plants and Products (Chicago 1919), JA 11 ser. 18 (1921), 270—293.

FERRAND, G., L'élément persan dans les textes nautiques arabes, JA 204 (1924), 193—251.

FERRAND, G., Quatre textes épigraphiques malayo-sanskrits du Sumatra et de Banka, JA 221 (1932), 271—326.

FETTICH, N., Zur Chronologie der sibirischen Goldfunde der Ermitage, AArchHung 2.4 (1952), 251—267.

FÉVRIER, J. G., Essai sur l'histoire politique et économique de Palmyre, Thèse (Paris 1931).

FIESEL, L., Geleitzölle im griechisch-römischen Ägypten und im germanisch-romanischen Abendland, GöttNachr (1924), 57—101.

FILLIOZAT, J., Les inscriptions de Virapatnam, CRAI (1947), 107—118.

FILLIOZAT, J., Les échanges de l'Inde et de l'Empire romain aux premiers siècles de l'ère chrétienne, RH 201 (1949), 1—29.

FILLIOZAT, J., Les relations extérieures de l'Inde, vol. 1: Les échanges de l'Inde et de l'Empire romain aux premiers siècles de l'ère chrétienne, Publications de l'Institut Français d'Indologie no. 2 (Pondichéry 1956).

FILLIOZAT, J., Les relations extérieures de l'Inde, vol. 2: La doctrine brahmanique à Rome au IIIème siècle, Publications de l'Institut Français d'Indologie no. 2 (Pondichéry 1956).

FILLIOZAT, J., L'Agalloche et les manuscrits sur bois dans l'Inde et les pays de civilisation indienne, JA 246 (1958), 85—93.

FILLIOZAT, J., Graeco-Aramaic Inscription of Aśoka near Kandahar, EpInd 34 (1961/62), 1—8.

FILLIOZAT, J., L'inscription dite 'de Vô-Canh', BEFEO 55 (1969), 107—116.

FILLIOZAT, J., Pline et le Malaya, JA 262 (1973), 119—130.

FINK, R. O., P. Mich. VII.447, AJA 68 (1964), 297—299.

FINKELSCHERER, H., Zur Frage fremder Einflüsse auf das rabbinische Recht, MGWJ 79 (1955), 381—398.

FINKELSTEIN, M. I., Ἔμπορος, Ναύκληρος and Κάπηλος: A Prolegomena to the Study of Athenian Trade, CPh 30 (1935), 320—336.

FINLEY, M. I., Early Greece, the Bronze and Archaic Ages (New York 1970).

FINLEY, M. I., The Ancient Economy (Berkeley 1973).

FINOT, L., Notes d'épigraphie, XIV: Les inscriptions du Musée de Hanoi, BEFEO 15.2 (1915), 1—38.

FINOT, L., Review of G. MASPERO, Le royaume de Champa (Paris/Bruxelles 1928), BEFEO 28 (1928), 285—292.

FISCHEL, W. S., The Spice Trade in Mamluk Egypt, JESHO 1 (1951—1958), 157—174.

FISCHER, H., Zu einigen Fragen der Sozialstruktur im Westlichen Kleinasien nach den von Josef Keil und Anton von Premerstein veröffentlichten Quellen, JWG (1967), 3.336—362.

FISCHER, K., Ἀλεξανδρόπολις μητρόπολις Ἀραχωσίας. Zur Lage von Kandahar an Landverbindungen zwischen Iran und Indien, BJ 167 (1967), 129—232.

FISCHER, K., Historical, Geographical and Philological Studies on Seistan by Bosworth, Daffinà and Gnoli in the Light of Recent Archaeological Field Surveys, E&W n.s. 21 (1969), 45—51.

FISCHER, K., Rapport préliminaire sur la prospection archéologique du Seistan Septentrional en octobre 1970, Afghanistan 23.4 (1971), 37—50.

FISCHER, K., Archäologische Landesaufnahme im Norden von Afghanisch-Sistan, 1968—1972, AMI N.F. 6 (1973), 213—230.

FISCHER, T., Methodische Bemerkung zur historischen Auswertung antiker Münzhortfunde an Hand der Silberfunde von Susa: Depotfund und Münzversteck, SM 18 (1968), 9—13.

FITZ, J., Verwaltung der pannonischen Bergwerke, Klio 54 (1972), 213—225.

FITZGERALD, C. P., China: A Short Cultural History² (London 1950).

FITZLER, K., Steinbrüche und Bergwerke im ptolemäischen und römischen Ägypten, Leipziger Historische Abhandlungen H. 21 (Leipzig 1910).

FITZLER, K., Zur kaiserlichen Bergwerksverwaltung in Ägypten, APF 5 (1909—1913), 422—423.

FLEET, J. F., The Traditional Date of Kanishka, JRAS (1906), 979—992.

FLEET, J. F., The Early Use of the Era of B.C. 58, JRAS (1907), 169—172.

FLEET, J. F., Moga, Maues and Vonones, JRAS (1907), 1013—1040.

FLEET, J. F., The Question of Kanishka, JRAS (1913), 95—107.

FLEET, J. F., The Date of Kanishka, JRAS (1913), 913—920, 965—1011.

FLIGHT, W., On the Chemical Composition of a Bactrian Coin, NC n. s. 8 (1868), 305—308.

FLINDERS PETRIE, W. M., Dendereh 1898, Egypt Exploration Fund Memoir 17 (London 1900).

FOLLET, S., Hadrien en Égypte et en Judée, RPh 3 ser. 42 (1968), 54—77.

FORABOSCHI, D., L'Ousia Severiana una tenuta 'privata' Romana in Egitto, CE 42 (1967), 172—176.

FORBES, C. A., The Education and Training of Slaves in Antiquity, TAPhA 86 (1955), 321—360.

FORBES, R. J., Studies in Ancient Technology, vol. 9 (Leiden 1964).

FORBES, W. T., The Silkworm of Aristotle, CPh 25 (1930), 22—26.

FORRER, R., Römische und byzantinische Seiden-Textilien aus dem Gräberfelde von Achmim-Panopolis (Strassburg 1891).

FORSYTH, T. D., On the Buried Cities in the Shifting Sands of the Great Desert of Gobi, PRGS 21 (1877), 27—46.

FORTINA, G., LEONI, M., and MARTINETTI, G., Indagini analitiche e metallografiche su denari romani di epoca repubblicana, Sibrium 11 (1971/72), 465—475.

FOUCHER, A. C. A., Notes sur la géographie ancienne du Gandhâra, BEFEO 1.4 (1901), 322—369.

FOUCHER, A. C. A., The Beginnings of Buddhist Art and Other Essays in Indian and Central Asian Archaeology (London/Paris 1917).

FOUCHER, A. C. A, La Nicée d'Afghanistan, CRAI (1939), 435—447.

FOUCHER, A. C. A., La vieille route de l'Inde de Bactres à Taxila, 2 vols., MDAFA 1 (Paris 1942—1947).

FOX, R. B., and EVANGELISTA, A., The Bato Caves, Sorsogon Province, Philippines, UMJEAS 6.1 (1957), 49—55.

FOX, R. B., and EVANGELISTA, A., The Cave Archaeology of Cagraray Island, Albay Province, Philippines, UMJEAS 6.1 (1957), 57—68.

FOX, R. L., Alexander the Great (London 1974).

FRANCKE, A. H., Notes on Khotan and Ladakh (from a Tibetan point of view), Indian Antiquary 58 (1929), 147—152.

FRANK, F., Aus der 'Araba I: Reiseberichte, ZDPV 57 (1934), 191—280.

FRANK, T., Mercantilism and Rome's Foreign Policy, AHR 18 (1912/13), 233—252.

FRANK, T., Race Mixture in the Roman Empire, AHR 21 (1917), 689—710.

FRANK, T., The Financial Crisis of 33 A.D., AJPh 56 (1935), 336—341.

FRANK, T., Rome and Italy of the Empire, ESAR 5 (Baltimore 1939).

FRANKE, O., Beiträge aus chinesischen Quellen zur Kenntnis der Türkvölker und Skythen Zentralasiens, APAW (1909), 1. 3—111.

FRANKE, O., Kêng Tschi T'u: Ackerbau und Seidengewinnung in China (Hamburg 1913).

FRANKE, O., Geschichte des Chinesischen Reiches, 5 vols. (Berlin 1930—1952).

Franke, P. R., Um 300 n. Chr.: Baumwollstoffe im Saarland, Textil-Industrie 72.10 (1970), 749—750.

Franke, W., Gräber aus dem 2. Jahrhundert n. Chr. in Ssu-ch'uan, Sinologica 2.4 (1950), 294—298.

Frankfort, H., Achaemenian Sculpture, AJA 50.1 (1946), 6—14.

Fraser, P. M., Bibliography: Graeco-Roman Egypt: Greek Inscriptions (1952—1953), JEA 40 (1954), 124—141.

Fraser, P. M., Bibliography: Graeco-Roman Egypt: Greek Inscriptions (1954), JEA 41 (1955), 131—140.

Fraser, P. M., Bibliography: Graeco-Roman Egypt: Greek Inscriptions (1956), JEA 43 (1957), 101—109.

Fraser, P. M., Bibliography: Graeco-Roman Egypt: Greek Inscriptions (1960), JEA 47 (1960), 139—149.

Fraser, P. M., Inscriptions from Ptolemaic Egypt, Berytus 13.2 (1960), 123—161.

Fraser, P. M., Bibliography: Graeco-Roman Egypt: Greek Inscriptions (1961), JEA 48 (1961), 141—157.

Fraser, P. M., Ptolemaic Alexandria, 3 vols. (Oxford 1972).

Fraser, P. M., Notes on Two Rhodian Institutions, ABSA 67 (1972), 113—124.

Frederiksen, M. W., Republican Capua: A Social and Economic Study, PBSR n. s. 14 (1959), 80—125.

Frederiksen, M. W., Theory, Evidence and the Ancient Economy, JRS 65 (1975), 164—171.

Freeman-Grenville, G. S. P., The Medieval History of the Coast of Tanganyika with Special Reference to Recent Archaeological Discoveries, Veröffentlichung, Institut für Orientforschung (Deutsche Akademie der Wissenschaften zu Berlin) no. 55 (Berlin 1962).

Freeman-Grenville, G. S. P., Coinage in East Africa Before Portuguese Times, NC 6 ser. 17 (1957), 151—175.

Freeman-Grenville, G. S. P., East African Coin Finds and their Historical Significance, JAH 1.1 (1960), 31—43.

Freeman-Grenville, G. S. P., and Martin, B. G., A Preliminary Handlist of the Arabic Inscriptions of the Eastern African Coast, JRAS (1973), 98—122.

Fremersdorf, F., Wie wurden die römischen Diatretgläser hergestellt? Eine Entgegnung, KJVFG 2 (1956), 27—40.

Fremersdorf, F., Die Anfänge der römischen Glashütten Kölns, KJVFG 8 (1965/66), 24—43.

Frend, W. H. C., Some Cultural Links Between India and the West in the Early Christian Centuries, Theoria to Theory 2 (1968), 306—311.

Frend, W. H. C., Some Greek and Latin Papyri of the Period 50 B.C. to 50 A.D. from Q'aṣr Ibrim in Nubia, in: Proceedings of the XIV International Congress of Papyrologists, Oxford, 24—31 July 1974, GRM 61 (London 1975), 103—111.

Frézouls, E., Inscription de Cyrrhus relative à Q. Marcius Turbo, Syria 30 (1953), 241—278.

Frierman, J. D., Chinese Ceramics from Ashkelon and Caesarea, IEJ 19.1 (1969), 44—45.

Fripp, C. E., A Note on Mediaeval Chinese-African Trade, NADA 17 (1940), 88—96.

Fripp, C. E., Chinese Mediaeval Trade with Africa, NADA 18 (1941), 12—22.

Frisk, H., Le périple de la Mer Érythrée: Suivi d'une étude sur la tradition et la langue, Göteborgs Högskelas Arsskrift 33.1 (Göteborg 1927).

Frost, H., From Rope to Chain. On the Development of Anchors in the Mediterranean, MM 49.1 (1963), 1—20.

Frost, H., The Stone-Anchors of Ugarit, Ugaritica 6 (1969), 235—243.

Frost, H., Bronze-Age Stone-Anchors from the Eastern Mediterranean, MM 56 (1970), 377—394.

Frost, H., Stone Anchors as Indications of Early Trade Routes, in: M. Mollat (ed.), Sociétés et compagnies de commerce en Orient et dans l'Océan Indien, Actes du 8 Colloque Internationale d'Histoire Maritime (Beyrouth 5—10 Sept. 1966), Bibliothèque générale de l'École Pratique des Hautes Études (Paris 1970), 55—61.

Frumkin, G., Archaeology in Soviet Central Asia, III: Kirgiziya and the Fergana Valley, CAR 12 (1964), 6—29.

Frumkin, G., Archaeology in Soviet Central Asia, V: The Deltas of the Oxus and Jaxartes: Khorezm and its Borderlands, CAR 13 (1965), 69—86.

Frumkin, G., The Expansion of Buddhism as Witnessed by Recent Archaeological Finds in Soviet Central Asia, BiOr 25.3/4 (1968), 157—159.

Frye, R. N., Notes on the Early Coinage of Transoxiana, NNM 113 (New York 1949).

Frye, R., Report on a Trip to Iran in the Summer of 1948, Oriens 2.2 (1949), 208—211.

Frye, R. N., The Middle Persian Inscription at Sar Mashhad, HTR 48.1 (1949), 69—70.

Frye, R. N., Additional Notes on the Early Coinage of Transoxiana, ANSMN 4 (1950), 105—114.

Frye, R. N., Pahlevi Heterography in Ancient Georgia, in: Archaeologica Orientalia in memoriam Ernst Herzfeld (New York 1952), 89—101.

Frye, R. N., Gilliam, J. F., Ingholt, H., and Welles, C. B., Inscriptions from Dura-Europos, YCS 14 (1955), 123—213.

Frye, R. N., Remarks on the Paikuli and Sar Mašhad Inscriptions, HJAS 20 (1957), 702—708.

Frye, R. N., Die Legenden auf sassanidischen Siegelabdrücken, WZKM 56 (1960), 32—35 (= Festschrift Herbert W. Duda).

Frye, R. N., Biyā bānak: the Oases of Central Iran, CAJ 5.3 (1960), 182—197.

Frye, R. N., Some Early Iranian Titles, Oriens 15 (1962), 352—359.

Frye, R. N., The Heritage of Persia (New York 1963).

Frye, R. N., The Middle Persian Inscription of Kartīr at Naqš-i Rajab, IIJ 8.3 (1965), 211—225.

Frye, R. N., Sasanian Clay Sealings in the Collection of Mohsen Foroughi, Iranica Antiqua 8 (1968), 118—132.

Frye, R. N., Historical Notes on Sasanian and Byzantine Silver, BAIPU 1 (1969), 36—40.

Frye, R. N., Sasanian Silver and History, in: C. E. Bosworth (ed.), Iran and Islam, in Memory of the late Vladimir Minorsky (Edinburgh 1971), 255—262.

Frye, R. N., History and Sasanian Inscriptions, in: Convegno internazionale sul tema: la Persia nel Medioevo, Roma, 31 marzo—5 aprile, 1970, Accademia nazionale dei Lincei, Quaderno no. 160 (Rome 1971), 215—223.

Frye, R. N. (ed.), Sasanian Remains from Qasr-i Abu Nasr (Cambridge, Mass. 1973).

Frye, R. N., Napki Malka and the Kushano-Sasanians, in: D. K. Kouymjian (ed.), Near Eastern Numismatics, Iconography, Epigraphy and History. Studies in Honor of George C. Miles (Beirut 1974), 115—122.

Frye, R. N., Persepolis, JNES 33 (1974), 383—386.

Frye, R. N., Sasanian Clay Seal Impressions Again, BAIPU 3/4 (1975), 1—8.

Frye, R. N., Sasanian Inscriptions and Kushan History, in: Proceedings of the International Conference of the History, Archaeology and Culture of Central Asia in the Kushan Period, vol. 2 (Moscow 1975), 151—152.

Fujii, H., Al-Tar Caves, Hill-A Excavations in 1971, Sumer 29.1/2 (1973), 61—86,

Fukai, Shinji, The Artifacts of Hatra and Parthian Art, E&W n.s. 11.2/3 (1960), 135—181.

Fuks, A., Notes on the Archive of Nicanor, JJP 5 (1951), 208—216.

Fuks, A., The Jewish Revolt in Egypt (A.D. 115—117) in the Light of the Papyri, Aegyptus 33 (1953), 131—158.

Fuks, A., Aspects of the Jewish Revolt in A.D. 115—117, JRS 51 (1961), 98—104.

Funk, S., Die Juden in Babylonien, 200—500 (Berlin 1902).

Furneaux, H., The Annals of Tacitus^2 (Oxford 1896—1907).

Fussman, G., Ruines de la vallée de Wardak, ArtsAs 30 (1974), 65—103.

Fussman, G., Documents épigraphiques Kouchans, BEFEO 61 (1974), 1—66.

Gabain, A. von, Steppe und Stadt im Leben der ältesten Türken, Islam 29 (1949), 30—62.

Gabba, E., Le origini della guerra sociale e la vita politica romana dopo l'89 A.C., Athenaeum 32 (1954), 41—114, 293—345.

Gadallah, F. F., Meroitic Problems and a Comprehensive Meroitic Bibliography, Kush 11 (1963), 196—216.

Gadd, C. J., Seals of Ancient Indian Style Found at Ur, PBA 18 (1932), 191—210.

Gafurov, B. G., Istoria tadzhikskogo naroda v kratkom izlozhenii 1 (Moscow 1955).

Gafurov, B. G., Kushan Civilization and World Culture, in: Proc. of the International Conf. on the Hist., Arch. and Culture of Central Asia in the Kushan Period, Dushanbe, Sept. 27—Oct. 6, 1968, vol. 1 (Moscow 1974), 71—80.

Gagé, J., Comment Sapor a-t-il 'triomphé' de Valérien?, Syria 42 (1965), 343—388.

Gaidukevich, V. E., Raboty Farkhadskoi arkheologicheskoi ekspeditsii v Uzbekistane v 1943—1944 gg., KSIIMK 14 (1947), 92—109.

Galanina, L. K., Stekliannye Sosudy iz Kurdzhipskogo Kurgana, AS 12 (1970), 35—44.

Gale, E. M., Discourses on Salt and Iron: A Debate on State Control of Commerce and Industry in Ancient China, Sinica Leidensia 2 (Leiden 1931).

Gale, E. M., Boodberg, P. A., and Lin, T. C., Discourses on Salt and Iron (Yen Tieh Lun, chaps. XX—XXVIII), JRASNCB 65 (1934), 73—110.

Gall, H. von, Die Mosaiken von Bishapur und ihre Beziehung zu den Triumphreliefs des Shapur I, AMI N.F. 4 (1971), 193—205.

Gall, H. von, Entwicklung und Gestalt des Thrones im vorislamischen Iran, AMI N.F. 4 (1971), 207—235.

Gallavotti, C., The Greek Version of the Kandahar Bilingual Inscription of Aśoka, E&W n.s. 10.3 (1959), 185—191.

Gamber, O., Grundriß einer Geschichte der Schutzwaffen des Altertums, JKSW 62 (1966), 7—70.

Gamber, O., Kataphrakten, Clibanarier, Normannenreiter, JKSW 64 (1968), 7—44.

Gamburg, B. Z., and Gorbunova, N. G., Mogil'nik epokhi bronzy v Ferganskoi doline, KSIIMK 63 (1956), 85—93.

Gamburg, B. Z., and Gorbunova, N. G., Novye dannye o kul'ture epokhi broncy Ferganskoi doliny, SA (1957), 3. 130—135.

Ganguly, D. K., The Chronology of Punch-Marked Coins, in: A. K. Narain and L. Gopal (eds.), Seminar Papers on the Chronology of the Punch-marked Coins, Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 1 (Varanasi 1966), 137—142.

Ganguly, D. K., The Imperial Kushāṇa Coins and their Imitations in Orissa, JNSI 28 (1966), 6—11.

Garbini, G., La datazione della statua Sudarabica di Ma'adkarib, OA 5.1 (1966), 59—65.

Garbini, G., Una bilingue sabeo-ebraica da Zafar, AION 30 (1970), 153—160.

Garbini, G., Iscrizioni sabee da Hakir, AION 31 (1971), 303—311.

Garbini, G., Nuove iscrizioni sabee, AION 33 (1973), 31—46.

Garbini, G., Iscrizioni sudarabiche, I: Iscrizioni minee, RPSS 10 (Naples 1974).

Garde, A. S., Some Rare Coins from Gujarat, JNSI 12.1 (1950), 26—30.

Gardiner, A. H., The Ancient Military Road between Egypt and Palestine, JEA 6 (1920), 99—116.

Gardiner, K. H. J., The Hou-han-shu as a Source for the Early Expansion of Koguryō, MS 28 (1969), 148—187.

Gardner, C. S., Chinese Traditional Historiography (Cambridge, Mass. 1961).

Gardner, G. B., Ancient Beads from the Johore River as Evidence of an Early Link by Sea Between Malaya and the Roman Empire, JRAS (1937), 467—470.

Garlake, P. and M., Early Ship-Engravings of the East African Coast, TNR 63 (1964), 197—206.

Gardner, P., Coins from Kashgar, NC n.s. 19 (1879), 214—279.

Gardner, P., Catalogue of Indian Coins in the British Museum. The Coins of the Greek and Scythic Kings of Bactria and India in the British Museum (London 1886).

Garlake, P., The Value of Imported Ceramics in the Dating and Interpretation of the Rhodesian Iron Age, JAH 9.1 (1968), 13—33.

Garnsey, P., Social Status and Legal Privilege in the Roman Empire (Oxford 1970).

Garnsey, P., Septimius Severus and the Marriage of Soldiers, CSCA 3 (1970), 45—53.

Garnsey, P., Aspects of the Decline of the Urban Aristocracy in the Empire, in: H. Temporini (ed.), ANRW II 1 (Berlin/New York 1974), 229—252.

Garstang, J., Preliminary Note on an Expedition to Meroë in Ethiopia, LAAA 3 (1910), 57—70.

GARSTANG, J., Second Interim Report on the Excavations at Meroë in Ethiopia, LAAA 4 (1911), 45—71.

GARSTANG, J., Third Interim Report on the Excavations at Meroë in Ethiopia, LAAA 5 (1912), 73—83.

GARSTANG, J., and GEORGE, W. S., Fourth Interim Report on the Excavations at Meroë in Ethiopia, LAAA 6 (1913), 2—21.

GARSTANG, J., Fifth Interim Report on the Excavations at Meroë in Ethiopia, LAAA 7 (1914), 1—24.

GARZETTI, A., From Tiberius to the Antonines. A History of the Roman Empire, A.D. 14—192, translated by J. R. FOSTER (London 1974).

GASPARDONE, E., The Megalithic Tomb of Xuân-Lôc (Cochin-China), JGIS 4.1 (1937), 26—35.

GASPARDONE, E., La Plus Ancienne Inscription d' Indochine, JA 241 (1953), 477—485.

GAUDEBOUT, P., and VERNIER, F., Notes sur une campagne de fouilles à Vohémar, 'Mission Rasikajy 1941', BAM 24 (1941), 100—114.

GAUDEMET, J., La juridiction provinciale d'après la correspondance entre Pline et Trajan, RIDA 3 ser. 11 (1964), 335—353.

GAUTHIER, H., Le Temple de Kalabchah, 2 vols. (Cairo 1911).

GAUTHIER, H., Le Temple de l'Ouâdi Mîyah (El Kanaïs), BIFAO 17 (1919), 1—38.

GAUTHIER, H., Les nomes d' Égypte dépuis Hérodote jusqu'à la conquête arabe (Cairo 1935).

GAUTIER, E.-F., Rapport sur une mission au Sahara, CRAI (1935), 307—312.

GAVRILOVA, A. A., Raskopki vtorogo Katandinskogo mogil'nika, SA 27 (1957), 250—268.

GAWLIKOWSKI, M., Die polnischen Ausgrabungen in Palmyra (1959—1967), AA (1968), 289—307.

GAWLIKOWSKI, M., À propos des reliefs du temple des Gaddê à Doura, Berytus 18 (1969), 105—109.

GAWLIKOWSKI, M., Monuments Funéraires de Palmyre, Travaux du Centre d'Archéologie Méditerranéenne de l'Académie Polonaise des Sciences 9 (Warsaw 1970).

GAWLIKOWSKI, M., Palmyrena, Berytus 19 (1970), 65—86.

GAWLIKOWSKI, M., Nouvelles inscriptions du Camp de Dioclétien, Syria 47 (1970), 313—324.

GAWLIKOWSKI, M., Inscriptions de Palmyre, Syria 48 (1971), 407—426.

GAWLIKOWSKI, M., Palmyre VI. Le temple palmyrénien, Étude d'épigraphie et de topographie historique (Warsaw 1973).

GAWLIKOWSKI, M., Liturges et custodes sur quelques inscriptions palmyréniennes, JNES 32 (1973), 113—123.

GAWLIKOWSKI, M., Le Tadmoréen, Syria 51 (1974), 91—103.

GAYET, A., L'exploration des nécropoles gréco-byzantines d'Antinoë et les sarcophages pharaoniques de la ville antique, AMG 30.2 (1902), 25—46.

GAYET, A., L'exploration des nécropoles de la montagne d'Antinoë fouilles exécutés en 1901—1902, AMG 30.3 (1903), 116—140.

GAZZA, V., Prescrizioni mediche nei papiri del'Egitte greco-romano, I, Aegyptus 35 (1955), 86—110.

GAZZA, V., Prescrizioni mediche nei papiri dell'Egitte greco-romano, II, Aegyptus 36 (1956), 73—114.

GEFFCKEN, J., Religionsgeschichtliches in der Historia Augusta, Hermes 55 (1920), 279—295.

GEIJER, A., A Silk from Antinoë and the Sasanian Textile Art, OrSuec 12 (1963), 3—36.

GELB, I. J., Makkan and Meluḫḫa in Early Mesopotamian Sources, RAssyr 64.1 (1970), 1—8.

GENTILI, G. V., I mosaici della villa romana del casale di Piazza Armerina, Boll. d'Arte 37 (1952), 33—46.

GERASIMOV, T., Ednostranna zlatna moneta na Konstantii Veliki, IAI 20 (1955), 583.

GERASIMOV, T., Zollplombe mit dem Namen der Stadt Ephesus in Kleinasien, IAI 34 (1974), 318—319.

GERASIMOV, T., Un trésor de monnaies antiques du sud de la Dobroudja, SCN 6 (1975), 25—26.

GEREMEK, H., P. Iandana 99: Italian Wines in Egypt, JJP 16/17 (1971), 159—171.

Gerkan, A. von, Die Stadtmauer von Palmyra, Berytus 2 (1935), 25—33.

Ghadban, C., Un site Safaïtique dans l'Antiliban, ADAJ 16 (1971), 77—82.

Ghali, I., Le calendrier copte et l'ère des Martyrs, BIFAO 66 (1968), 113—137.

Ghirshman, R., Inscription du monument de Châpour I^{er} à Châpour, RAA 10 (1936), 123—129.

Ghirshman, R., Les fouilles de Châpour (Iran): Deuxiéme campagne 1936/37, RAA 12 (1938), 12—19.

Ghirshman, R., Fouilles de Bégram (Afghanistan), JA 234 (1943), 59—71.

Ghirshman, R., Bégram, Recherches archéologiques et historiques sur les Kouchans, MDAFA 12 (Cairo 1946).

Ghirshman, R., Les Chionites-Hephtalites, MDAFA 13 (Cairo 1948).

Ghirshman, R., Notes iraniennes, IV: Le trésor de Sakkez, les origines de l'art mède et les bronzes du Luristan, Artibus Asiae 13.3 (1950), 181—206.

Ghirshman, R., Un bas-relief d'Artaban V avec inscription en Pehlvi arsacide, MonPiot 44 (1950), 97—107.

Ghirshman, R., Cinq campagnes de fouilles à Suse (1946—1951), RAssyr 46 (1952), 1—18.

Ghirshman, R., Die französische archäologische Forschung in Iran und Afghanistan (1940—1951), Saeculum 4 (1953), 115—123.

Ghirshman, R., Un miroir T'ang de Suse, Artibus Asiae 19 (1956), 230—233.

Ghirshman, R., Le problème de la chronologie des Kouchans, CHM 3.3—4 (1957), 689—722.

Ghirshman, R., Ile de Kharg dans le Golfe Persique, ArtsAs 6.2 (1959), 101—107.

Ghirshman, R., L'Ile de Kharg (Ikaros) dans le Golfe Persique, RA 6 ser. 1 (1959), 70—77.

Ghirshman, R., Bard-è Nechandeh, Syria 41 (1964), 301—321.

Ghirshman, R., Le triomphe de Châpour I, MIO 11.1 (1965), 3—6.

Ghirshman, R., Masjid-i Solaiman ou mosquée de Solomon, Campagne de fouilles dans les montagnes des Bakhtiari (Iran) au printemps 1967, CRAI (1968), 8—15.

Ghirshman, R., La Terrasse sacrée de Masjid-i Solaiman (Iran), CRAI (1969), 482—494.

Ghirshman, R., La Terrasse sacrée de Masjid-i Solaiman (Iran): Campagne de 1970, CRAI (1970), 653—665.

Ghirshman, R., L'Iran et Rome aux premiers siècles de notre ère, Syria 49 (1972), 161—165.

Ghirshman, R., Un tétradrachme d'Andragoras de la collection de M. Foroughi, in: D. K. Kouymjian (ed.), Near Eastern Numismatics, Iconography, Epigraphy and History. Studies in Honor of George C. Miles (Beirut 1974), 1—8.

Ghirshman, R., Châpour Ier, 'Roi des Rois' sans couronne, AcIr 2 ser. 1 (1975) = Monumentum H. S. Nyberg, 257—267.

Ghirshman, R., Un bas-relief parthe de la Collection Foroughi, Artibus Asiae 37.3 (1975), 229—239.

Ghosh, A., Taxila (Sirkap) 1944—1945, AI 4 (1947/1948), 41—84.

Ghosh, A. K., and Chakrabarti, D. K., Prehistoric Metal Stage in West Bengal, BCRI 7.1/2 (1968), 112—123.

Ghul, M. A., New Qatabāni Inscriptions, II, BSOAS 22.3 (1959), 419—438.

Giacchero, M., Il valore delle monete Dioclezianee dopo la riforma del 301 e i prezzi dell'oro e dell'argento nei nuovi frammenti di Aezani dell'Edictum de Pretiis, RIN 4 ser. 22 (1974), 145—154.

Giangrande, G., On the Text of the 'Periplus Maris Erythraei', Mnemosyne 4 ser. 28.3 (1975), 293—296.

Giard, J. B., Le trésor d'Étaples, RN 6 ser. 7 (1966), 206—224.

Gibson, M., Coins as a Tool in Archaeological Surface Survey, in: D. K. Kouymjian (ed.), Near Eastern Numismatics, Iconography, Epigraphy and History. Studies in Honor of George C. Miles (Beirut 1974), 9—14.

Gibson-Hill, C. A., Further Notes on the Old Boat Found at Pontian in Southern Pahang, JMBRAS 25.1 (1952), 111—133.

Gichon, M., The Origin of the *Limes Palaestinae* and the Major Phases in its Development, in: Studien zu den Militärgrenzen Roms, BJ Beiheft 19 (Bonn 1967), 175—193.

GIGNOUX, P., Deux mots pehlevis de l'inscription de Kartir à la Kaʿaba de Zoroastre, JA 255 (1967), 335—339.

GIGNOUX, P., L'inscription de Kartir à Sar Mašhad, JA 256 (1968), 387—418.

GIGNOUX, P., Glossaire des inscriptions pehlevies et parthes, CIIran Suppl. 1 (London 1972).

GIGNOUX, P., Étude des variantes textuelles des inscriptions de Kirdir. Genèse et datation, Le Muséon 86.1/2 (1973), 193—215.

GIGNOUX, P., Problèmes d'interpretation des bulles sassanides, StIr 2 (1973), 137—142.

GIGNOUX, P., Nouveaux toponymes sassanides, JA 262 (1974), 299—304.

GIL, M., The Rādhānite Merchants and the Land of Rādhān, JESHO 17.3 (1974), 299—328.

GILES, L., A Chinese Geographical Text of the Ninth Century, BSOAS 6.4 (1932), 825—846.

GILES, L., A Topographical Fragment from Tun-huang, BSOAS 7. 3 (1934), 545—572.

GILLETT, M., The National Minorities of Western China, CAR 16.1 (1968), 69—70.

GILLIAM, J. F., The Dux Ripae at Dura, TAPhA 72 (1941), 157—175.

GILLIAM, J. F., Notes on PSI 1307 and 1308, CPh 47 (1952), 29—31.

GILLIAM, J. F., A Roman Naval Roster: P. Rylands 79, CPh 48 (1953), 97—99.

GILLIAM, J. F., The Ostracon from Mons Claudianus, CE 28 (1953), 144—146.

GILLIAM, J. F., The Veterans and *Praefectus castrorum* of the *II Traiana* in AD. 157, AJPh 77 (1956), 359—375.

GILLIAM, J. F., The Appointment of Auxiliary Centurions (P. Mich. 134), TAPhA 88 (1957), 155—168.

GILLIAM, J. F., Egyptian Duces under Gordion, CE 36 (1961), 386—392.

GILLIAM, J. F., A Legionary Veteran and his Family, BASP 8.2/3 (1971), 39—44.

GILLIAM, J. F., Notes on Latin Texts from Egypt, in: J. BINGEN, G. CAMBIER and G. NACHTERGAEL (eds.), Le monde grec. Pensée, litterature, histoire, documents. Hommages à Claire Préaux (Bruxelles 1975), 766—774.

GILLIAM, J. F., Three Ostraca from Latopolis, BASP 13.2 (1976), 55—61.

GILMARTIN, K., Corbulo's Campaigns in the East: An Analysis of Tacitus' Account, Historia 22.4 (1973), 583—626.

GIMBUTAS, M., The Indo-Europeans: Archaeological Problems, AmerAnthro 65 (1963), 815—836.

GIOVANNINI, A., Athenian Currency in the Late Fifth and Early Fourth Century B.C., GRBS 16.2 (1975), 185—195.

GLASER, E., Abfassungszeit und Alter des Periplus maris erythraei, Das Ausland 64 (1891), 45—46.

GLASER, F., Die Abessinier in Arabien und Afrika (Munich 1895).

GLATHE, H., The Origin and Development of Chinese Money (Shanghai 1939).

GLAZOVSKIY, N. F., and GOLUBOV, B. N., On the Problem of Regulating the Regime of the Caspian Sea, SovGeog 16.1 (1975), 41—45.

GLOB, P. V., Arkaeologiske Undersgelser I Fire Arabiske stater, KUML (1959), 233—239.

GLOB, P. V., Al-Bahrain, De danske ekspeditioner til oldtidens Dilmun (Gyldendal 1968).

GLOVER, I., Radiocarbon Dates from Portuguese Timor, APAO 4.2 (1969), 107—112.

GLUECK, N., Deities and Dolphins (New York 1965).

GLUECK, N., Ezion-geber, BibArch 28.3 (1965), 70—87.

GNOLI, G., Jewish Inscriptions in Afghanistan, E&W n.s. 13.4 (1962), 311—312.

GNOLI, G., The Tyche and the Dioscuri in Ancient Sculptures from the Valley of Swat, New Documents for the Study of the Art of Gandhāra, E&W n.s. 14 (1963), 29—37.

GODARD, A., Badr Neshandè, Āthār-é Irān, 4 (1949), 153—162.

GODEFROY, P., Tétradrachmes Lagides au revers d'Athéna Promachos, RN 39 (1936), 279—283.

GÖBL, R., Aufbau der Münzprägung, in: F. ALTHEIM and R. STIEHL, Ein Asiatischer Staat: Feudalismus unter den Sasaniden und ihren Nachbarn (Wiesbaden 1954), 54—121.

GÖBL, R., Die Münzprägung der Kušān von Vima Kadphises bis Bahrām IV, in: F. ALTHEIM und R. STIEHL, Finanzgeschichte der Spätantike (Frankfurt/M. 1957), 173—256.

GÖBL, R., Zwei Neufunde in der Numismatik der Kushan, MÖNG 11 (1960), 94—96.

GÖBL, R., Roman Patterns for Kushāṇa Coins, JNSI 22 (1960), 75—95.

GÖBL, R., Zwei neue Termini für ein zentrales Datum der Alten Geschichte Mittelasiens, das Jahr 1 des Kušānkönigs Kaniška, AAWW 101 (1964), 137—151.

Göbl, R., Le relazioni numismatiche tra Roma e l'impero dei Kushana, in: Congresso Internazionale di Numismatice Roma 11—16 Sett. 1961, vol. 2 (Roma, 1965), 509—514.

Göbl, R., Dokumente zur Geschichte der Iranischen Hunnen in Baktrien und Indien, vol.2 (Wiesbaden 1967).

Göbl, R., Numismatic Evidence Relating to the Date of Kaniṣka, in: A. L. Basham (ed.), Papers on the Date of Kaniṣka (Leiden 1968), 103—113.

Göbl, R., Der Kušānische Goldmünzschatz von Debra Damo (Äthiopien) 1940, CAJ 14.4 (1970), 241—252.

Göbl, R., Die Rekonstruktion antiker Prägesysteme und ihre Bedeutung für die historische Forschung, in: H. Temporini (ed.), ANRW II 1 (Berlin/New York 1974), 890—918.

Goetz, H., Imperial Rome and the Genesis of Classical Indian Art, E&W n.s. 10 (1959), 261—268.

Goetz, H., An Indian Bronze from South Arabia, Archaeology 16.3 (1963), 187—189.

Goetz, H., An Unfinished Early Indian Temple at Petra, Transjordania, E&W n.s. 24.3/4 (1974), 245—248.

Goetze, A., An Old Babylonian Itinerary, JCS 7 (1953), 53—72.

Goitein, S. D., From the Mediterranean to India. Documents on the Trade to India, South Arabia, and East Africa from the Eleventh and Twelfth Centuries, Speculum 29.2 (1954), 181—197.

Goitein, S. D., The Main Industries of the Mediterranean Area as Reflected in the Records of the Cairo Geniza, JESHO 4 (1961), 168—197.

Goitein, S. D., The Exchange Rate of Gold and Silver Money in Fatimid and Ayyubid Times, JESHO 8 (1965), 1—46.

Goitein, S. D., Bankers' Accounts from the Eleventh Century A. D., JESHO 9 (1966), 28—68.

Gokhale, V. V., A Brāhmi Stone Inscription from Tunhuang, SIS 1.1 (1944), 18—22.

Goldstein, J. A., The Syriac Bill of Sale from Dura-Europos, JNES 25.1 (1966), 1—16.

Golenko, K. V., Leninakanskii klad sasanidskikh i byzantiiskikh monet (1956 g.), VV 19 (1958), 172—193.

Golenko, K. V., Denezhnoe obrashchenie Kolkhidy v rimskoe vremia (Leningrad 1964).

Golenko, K. V., Klad Vizantiiskikh monet VII v. naidennyi bliz Anapy, VV 26 (1965), 162—165.

Golenko, K. V., and Kapanadze, D. G., Monety naidennye v selenii Zguderi (Gruzinskaiâ SSR) v 1964—1965 gg., VDI (1968), 1. 160—166.

Golenko, K. V., Zametki ob obrashchenii rimskoi monety v Zakavkaz'e, VDI (1971), 4. 47—73.

Golenko, K. V., Le trésor d'antoniniani de Kertch, RN 6 ser. 15 (1973), 290—299.

Golenko, K. V., and Radzhabli, A. M., Ali-Bairamlinskii klad i nekotorye voprosy obrashcheniia parfianskikh monet v Zakavkaz'e, VDI (1975), 2.71—93.

Goodchild, R. G., Oasis Forts of *Legio III Augusta* on the Routes to the Fezzan, PBSR 22 (1954), 56—68.

Goodchild, R. G., Helios on the Pharos, AntJ 41 (1961), 218—223.

Goodrich, L. C., Cotton in China, Isis 34 (1943), 408—410.

Goodrich, L. C., Archaeology in China: The First Decades, JAS 17 (1957), 5—15.

Goossens, G., Artistes et artisans étrangers en Perse sous les Achéménides, La Nouvelle Clio 1 (1949), 32—44.

Goossens, G., Le Coton en Assyrie, AIPHOS 12 (1952), 167—176.

Goossens, R., Gloses indiennes dans le lexique d'Hésychius, AC 12 (1943), 47—55.

Gopal, L., The Right of Minting Coins in Ancient India, JAHRS 26 (1960/1961), 149—154.

Gopal, L., Textiles in Ancient India, JESHO 4.1 (1961), 53—69.

Gopal, L., Irrigation-tax in Ancient India, IHQ 38.1 (1962), 65—70.

Gopal, L., Coins in the Epigraphic and Library Records of Northern India in the Early Medieval Period, JNSI 25. 1 (1963), 1—15.

Gopal, L., The Source of Silver for the Punch-marked Coins, in: A. K. Narain and L. Gopal (eds.), Seminar Papers on the Chronology of the Punch-marked Coins, Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 1 (Varanasi 1966), 64—76.

Gorbunova, N. G., Sufanskii mogil'nik, AS 11 (1969), 72—91.

Gordon, D. H., Review of D. D. Sankalia, B. Sabburao and S. B. Deo, The Excavations at Maheshwar and Navda Toli, 1952—1953, The Deccan College Research Institute and Maharaja Sayajirao University Publication no. 1 (Poona/Baroda 1958), Antiquity 33 (1959), 225—226.

Gordon, D. H., Review of N. G. Dikshit, Tripuri, 1952 (Nagpur 1955), Antiquity 33 (1959), 225—226.

Gordon, M. L., The Nationality of Slaves under the Early Roman Empire, JRS 14 (1924), 93—111.

Gordon, M. L., The Freedman's Son in Municipal Life, JRS 21 (1931), 65—76.

Gordus, A. A., Non-destructive Analysis of Silver Coins — a Study of Sassanian and Umayyad Coinage, BSFN 25.6 (June 1970), 543—544

Gordus, A. A., Rapid Nondestructive Activation Analysis of Silver in Coins, in: R. H. Brill (ed.), Science and Archaeology (Cambridge, Mass. 1971), 145—155.

Gordus, A. A., Neutron Activation Analysis of Coins and Coin-streaks, in: E. T. Hall and D. M. Metcalf (eds.), Methods of Chemical and Metallurgical Investigation of Ancient Coinage (London 1972), 127—148.

Gordus, A. A., Non-Destructive Analysis of Parthian Sasanian and Umayyad Silver Coins, in: D. K. Kouymjian (ed.), Near Eastern Numismatics, Iconography, Epigraphy and History. Studies in Honor of George C. Miles (Beirut 1974), 141—162.

Gostar, N., Populatia palmyreniana din Tibiscum in lumina monumentelor epigrafice (Die palmyrenische Bevölkerung von Tibiscum im Lichte der epigraphischen Denkmäler), Archeologia Moldovei Academia Republicii Socialiste Române, Filiala Iaşi, Institutul de Istorie şi Arheologie, Secţia de Istorie veche şi archeologie (1964), 2—3. 299—309; cf. BCO 12.3 (1963), 147—148.

Goswami, M. C., A Report on an Iron Celt from Garo Hills, BDAGU 1 (1972), 97—98.

Goukowsky, P., Le roi Pôros, son éléphant et quelques autres (En marge de Diodore XVII. 88.6), BCH 96.1 (1972), 473—502.

Gowers, W., and Scullard, H. H., Hannibal's Elephants Again, NC 6 ser. 10 (1950), 271—283.

Goyal, S. R., The Attribution of Candragupta — Kumaradevi Coin Type, INC 4.2 (1965), 104—115.

Goyon, G., Le papyrus de Turin dit 'des mines d'or' et le Wadi Hammamat, ASAE 49 (1949), 337—392.

Grach, A. D., Drevnetiurkskoe pogrebenie s zerkalom Tsin'-Vana v Tuve, SE (1958), 4. 18—34.

Grach, A. D., Mogil'nik Sagly-Bazhi II; Voprosy Archeologii Tuvy Skifskogo Vremeni, SA (1967), 3. 215—233.

Graetz, H., Die Zeit der Anwesenheit der adiabenischen Königin in Jerusalem und des Apostel Paulus, MGWJ 26 (1877), 241—255, 289—306.

Graeven, H., Die Darstellungen der Inder in Antiken Kunstwerken, JDAI 15 (1900), 195—218,

Graf, J., Münzverfälschungen im Altertum, ZfN 35 (1903), 1—130.

Grakov, B. N., Monuments de la culture scythique entre de Volga et les monts Oural, ESA 3 (1928), 25—62.

Grakov, B. N., Deux tombeaux de l'époque scythique aux environs de la ville d'Orenbourg, ESA 4 (1929), 169—182.

Grakov, B. N., Skifskie Pogrebeniia na Nikopol'skom Kurgannom Pole, MIA 115 (1962).

Grakov, B. N., Dve zametki po skifo-sarmatskoi arkheologii, I: Novye nakhodki grecheskikh monet na Kamenskom gorodishcha, KSIA 89 (1962), 38—40.

Grant-Taylor, T. L., and Rafter, T. A., New Zealand Radiocarbon Measurements, Radiocarbon 5 (1963), 118—162.

Graser, E. R., The Significance of Two New Fragments of the Edict of Diocletian, TAPhA 71 (1940), 157—174.

Gray, B., The Export of Chinese Porcelain to India, TOCS 36 (1964/66), 21—36.

Gray, E. W., Review of M. A. R. Colledge, The Parthians (London 1967), CR n. s. 19. 1 (1969), 11—80.

Gray, E. W., Review of J. I. Miller, The Spice Trade of the Roman Empire 29 B.C. — A.D. 641 (Oxford 1969), JRS 60 (1970), 222—224.

GRAY, E. W., The Imperium of M. Agrippa: A Note on P. Colon inv. nr. 4701, ZPE 6. 3 (1970), 227—238.

GRAY, E. W., The Roman Eastern 'Limes' from Constantine to Justinian-Perspectives and Problems, PACA 12 (1973), 24—40.

GRAY, P. H. K., An Account of a Mummy in the County Museum and Art Gallery, Truro, JEA 56 (1970), 132—134.

GREEN, F. W., Notes on Some Inscriptions in the Ebai District, PSBA 31 (1909), 247—254.

GREEN, R. C., The Antiquity of the Quadrangular Adze in China and South-East Asia, NNZAA 18.1 (1975), 37—42.

GREISS, E. A. M., Découverte de fibres et Tissus de Coton en Égypte datant du début du IV^e siècle Ap. J—C, au monastère de Phoebammon dans la Thébaïde, Bull. Soc. d'Arch. Copte 13 (1951), 193—195.

GREISS, E. A. M., Les plus anciens spécimens de tissus et de fibres de coton découverts en Égypte, CE 27 (1952), 321—323.

GREK, T. V., Indiiskie nadpisi na keramike iz Kara-Tepe, in: Kara-Tepe: Buddiiskii peshchernyi monastyr′ v Starom Termeze (Moscow 1964), 62—81.

GRELOT, P., Remarques sur le bilingue grec-araméen d'Armazi, Semitica 8 (1958), 11—20.

GRIAZNOV, M. P., Boiarskaia pisanitsa, PIMK 7/8 (1933), 41—45.

GRIAZNOV, M. P., and GOLOMSHTOK, E. A., The Pazirik Burial of Altai, AJA 37.1 (1733), 30—45.

GRIAZNOV, M. P., Pamiatniki maiemirskogo etapa epokhi rannikh kochevnikov na Altae, KSIIMK 18 (1947), 9—17.

GRIAZNOV, M. P., Raskopki Altaiskoi Ekspeditsii na Blizhnikh Elbanakh, KSIIMK 26 (1949), 110—119.

GRIAZNOV, M. P., Pervyi Pazyrykskii Kurgan (Leningrad 1950).

GRIAZNOV, M. P., Istoriia drevnikh plemen verkhneĭ Obi po raskoptam bliz s Bolshaia Rechka, MIA 48 (1956).

GRIAZNOV, M. P., K voprosu o kul′turach epokhi pozdnei bronzy v. Sibiri, KSIIMK 64 (1956), 27—42.

GRIAZNOV, M. P., The Ancient Civilization of Southern Siberia, trans. J. HOGARTH (New York 1969).

GRIAZNOV, M. P., Miniatiury Tashtykskoi kul′tury, AS 13 (1971), 94—106.

GRIERSON, P., The Roman Law of Counterfeiting, in: R. A. G. CARSON and C. H. V. SUTHERLAND (eds.), Essays in Roman Coinage presented to Harold Mattingly (Oxford 1956), 240—261.

GRIERSON, P., Commerce in the Dark Ages: A Critique of the Evidence, Tr. Roy. Hist. Soc. 5 ser. 9.1 (1959), 123—140.

GRIERSON, P., Coin Wear and the Frequency Table (President's Address, Session 1962—1963), NC 3 ser. 7 (1963), i—xvi.

GRIERSON, P., The Purpose of the Sutton Hoo Coins, Antiquity 44 (1970), 14—18.

GRIFFING, R. P. JR., Early Borneo Export Wares, SMJ 11 (1963), 174—176.

GRIFFITH, F. L., Catalogue of the Demotic Papyri in the John Rylands Library, vol. 3 (Manchester 1909).

GRIFFITH, F. L., Papyrus Dodgson, PSBA 31 (1909), 100—109.

GRIFFITH, F. L., Additional Notes on the Papyrus Dodgson, PSBA 31 (1909), 289—291.

GRIFFITH, F. L., Meroitic Inscriptions, Pt. II: Napata to Philae and Miscellaneous, MemASE 20 (London 1912).

GRIFFITH, F. L., Pakhoras—Bakharâs—Faras in Geography and History, JEA 11 (1925), 259—268.

GRIFFITH, F. L., and CROWFOOT, G. M., On the Early Use of Cotton in the Nile Valley, JEA 20 (1934), 5—12.

GRIFFITH, F. L., Catalogue of the Demotic Graffiti of the Dodecaschoenus (Oxford 1937).

GRIFFITH, J. G., The Siege Scene on the Gold Amphora of the Panagjurischte Treasure, JHS 94 (1974), 38—49.

GRIMSTAD, G. F., Ricerche su alcuni diatreta, ConIA 1 (1967), 135—158.

GRISWOLD, A. G., The Santubong Buddha and its Context, SMJ 10 (1962), 363—371.

GROAG, E., Zu einer Inschrift aus Dura, Klio 29 (1936), 232—236.

GROHMANN, A., Südarabien als Wirtschaftsgebiet, Schriften der Philosophischen Fakultät der Deutschen Universität in Prag 7 (Prague 1930).

GROHMANN, A., Südarabien als Wirtschaftsgebiet, 2. T., Schriften d. Philosophischen Fakultät der Deutschen Universität in Prag 13 (Prague 1933).

GROHMANN, A., I: Arabische Chronologie, II: Arabische Papyruskunde, in: Handbuch der Orientalistik, Erste Abteilung: Der Nahe und der Mittlere Osten, Ergänzungsband II, Erster Halbband (Leiden 1966).

GROPP, G., Die sasanidische Inschrift von Mishkinshar in Āzarbaidjān, AMI N.F. 1 (1968), 149—158.

GROPP, G., Die Funktion des Feuertempels der Zoroastrier, AMI N.F. 2 (1969), 147—173.

GROPP, G., Bericht über eine Reise in West- und Südiran, AMI N.F. 3 (1970), 173—230.

GROPP, G., Die Pahlavi-Inschrift auf dem Thomaskreuz in Madras, AMI N.F. 3 (1970), 267—271.

GROPP, G., Die Derbent-Inschriften und das Adur-Gušnasp, AcIr 2 ser. 1 (1975) = Monumentum H.S.Nyberg, 317—331.

GROSSET-GRANGE, H., Comment naviguent aujourd'hui les Arabes de l'Océan Indien?, Arabica 19 (1972), 46—77.

GROSSO, F., Aspetti della politica orientale di Domiciano, I, Epigraphica 16 (1954), 117—179.

GROSSO, F., Aspetti della politica orientale di Domiziano, II, Epigraphica 17 (1955), 33—78.

GROSSO, F., M. Ulpio Traiano, governatore di Siria, RIL 91 (1957), 318—342.

GROSSO, F., Roma e i parti a fine i inizio II seolo d. Cr. altraverso de fonti cinesi, in: Atti del convegno dell'Accademia Nazionale dei Lincei sul tema: La Persia e il mondo Greco-Romano (Roma 11—14 aprile 1965), Accademia Nazionale dei Lincei Quaderno n. 76 (1966), 157—176.

GROSSO, F., Ricerche su Plauziano e gli avvenimenti del suo tempo, RAL 23 (1968), 7—58.

GROTTANELLI, V. L., Pescatori dell'Oceano Indiano (Rome 1955).

GRUNTFEST, IA. B., Novyi dokument o iemensko-palestinskikh sviaziakh doislamskogo perioda, PabSb 25 (1974), 105—114.

GRUPP, H., Studien zum antiken Reisegedicht, Dr. diss. unpublished (Tübingen 1953).

GSELL, S., Histoire ancienne de l'Afrique du nord, 8 vols. (Paris 1920—1928).

GUBIAND, M., Les Caravaniers asiatiques et les riverains de l'Océan Indien vus par les Coroplastes de la Smyrne Romaine, Artibus Asiae 10 (1947), 324—333; 11 (1948), 123—140.

GÜNTER, H., Zur Provenienzfrage spätantiker Gläser, AK 4 (1974), 371—376.

GÜNTHER, R., with ALTHEIM, F., Some Remarks on the Chronology of the Kushan Empire, in: Proc. of the International Conf. on the Hist. Arch. and Culture of Central Asia in the Kushan Period, Dushanbe. Sept. 27—Oct. 6, 1968 (Moscow 1974), 289—291.

GÜNTHER, W., Das Orakel von Didyma in der hellenistischen Zeit; eine Interpretation von Stein-Urkunden, Istanbuler Mitteilungen Beiheft 4 (Tübingen 1971).

GUÉPIN, J. P., On the Position of Greek Artists under Achaemenid Rule, Persica 1 (1963—1964), 34—52.

GUÉPIN, J. P., Le Cours du Cyzicène, AC 34 (1965), 199—203.

GUÉPIN, J. P., A Contribution to the Location of Ta Azara the Chief Sanctuary of Elymais, Persica 2 (1965/1966), 19—26.

GUÉRAUD, O., Ostraca Grecs et Latins de l'Wâdi Fawiâkhir, BIFAO 41 (1942), 141—196.

GUEY, J., Essai sur la Guerre Parthique de Trajan (114—117), Bibliothèque d'Istros 2 (Bucarest 1937).

GUEY, J., Review of F. A. LEPPER, Trajan's Parthian War (Oxford 1948), REA 54 (1952), 388—392.

GUEY, J., La devaluation du denier romain sous Septime-Sévère (194—195), BSAF (1952/53), 89—91.

GUEY, J., Un document sur Septime-Sévère en Égypte (Papyrus Columbia 123), REA 61 (1959), 134—139.

GUEY, J., Autour des res gestae divi Saporis, I: Deniers (d'or) et deniers d'or (de compte) anciens, Syria 38 (1961), 261—274.

GUEY, J., Vers 216—217 après J.-C. le denier romain valait-il toujours 1:25 d'aureus? (A propos de Dion Cassius 55.12.4—5 = extraits de Xiphilin et de Zonaras), BSFN 16.5 (1961), 51—52.

GUEY, J., L'aloi du denier Romain de 177 à 211 après J. C. (Étude descriptive), RN 6 ser. 4 (1962), 13—140.

GUEY, J., Old Aurei at Palmyra and the Coinage of Pescennius Niger, by T.V. BUTTREY dans Berytus 14, 1963, pp. 117—128. A propos des 300 "deniers d'or (= aurei) anciens" de la dédicace à Tainarsô, avril 193 après J.C. (CIS II—3—1, 3948; J. CANTINEAU, Inv III. 28), BSFN 19.7 (July 1964), 383—384.

GUEY, J., Quelques textes paranumismatiques, BSFN 19.5 (1964), 355—356.

GUEY, J., Encore l'aloi du denier romain de 177 à 211 après J.-C., BSFN 20.1 (1965), 427—428.

GUIMET, E., Les portraits d'Antinoé, AMG 2 ser. 5 (Paris 1912).

GULATI, A. N., A Note on the Early History of Silk in India, in: Technical Reports on Archeological Remains, Department of Archaeology and Ancient Indian History, Deccan College, University of Poona, Publication no. 2 (Poona 1961), 55—58.

GULIAMOV, Ia. G., Kushanskoe Tsarstvo i Drevniaia Irrigastia Srednei Azii, in: Proc. of the International Conf. on the Hist., Arch. and Culture of Central Asia in the Kushan Period, Dushanbe, Sept. 27 — Oct. 6, 1968 (Moscow 1974), 118—122.

GULLBERG, E., and ÅSTRÖM, P., The Thread of Ariadne, A Study of Ancient Greek Dress, Studies in Mediterranean Archaeology 21 (Göteborg 1970).

GULLINI, G., Problems of an Excavation in Northern Babylonia, Mesopotamia 1 (1966), 7—38.

GUMILEV, L. N., Efitality-gorshy i li stepniaki?, VDI (1967), 3. 91—98.

GUMMERUS, H., Die römische Industrie: Wirtschaftsgeschichtliche Untersuchungen, Klio 14 (1915), 129—189.

GUMOWSKI, M., Monety rzymskie w Polsce, Sprawozdania Towarzystwa naukowego w Toruniu 6 (1955), 77—79.

GUNDEL, H. G., Weitere kleine Beiträge zum römischen Heerwesen in Ägypten, Aegyptus 23 (1943), 153—159.

GUNDLACH, R., Bemerkungen zum ägyptischen Expeditionswesen, ZDMG 111/2 (1961), 385—386.

GUPIENIC, A., Krasnik, WN 7.4 (1963), 185.

GUPTA, C., A Coin of the City-State of Tagar, JNSI 33.2 (1971), 37—40.

GUPTA, P. C. D., Graeco-Roman Finds from Bengal, IAC 8. 4 (1960), 386—392.

GUPTA, P. L., Punch-marked Coins from Bairat, JNSI 8 (1946), 24—29.

GUPTA, P. L., Silver Punch-marked Coins from Bahal (Bombay Presidency), JNSI 8. 2 (1946), 119—134.

GUPTA, P. L., The Silver Punch-marked Coins from Taxila, JNSI 11.2 (1950), 114—146.

GUPTA, P. L., Some Observations on the Punch-marked Coins Based on the Study of Taxila Hoard of 1924, JNSI 12. 2 (1950), 136—150.

GUPTA, P. L., A New Hoard of Silver Punch-marked Coins from Taxila, JNSI 13.1 (1951), 53—68.

GUPTA, P. L., The Date of Kushāṇa Currency in Eastern India, JNSI 15.2 (1953), 185—192.

GUPTA, P. L., Eastern Expansion of the Kuṣāṇa Empire, IHQ 29.3 (1953), 205—221.

GUPTA, P. L., Nasthulapur Hoard of Silver Roman and Punch-marked Coins, JNSI 19 (1957), 1—4

GUPTA, P. L., Gold Amulets and the Kushana History, JNSI 21.2 (1959), 188—191.

GUPTA, P. L., Treasure Trove Laws in India — A Review, JNSI 23 (1961), 137—151.

GUPTA, P. L., Punch-marked Coins from Vaisāli, INC 2.1 (1961), 13—22.

GUPTA, P. L., The Amaravati Hoard of Silver Punch-marked Coins, Andhra Pradesh Government Museum Series no. 6 (Hyderabad 1963).

GUPTA, P. L., Fabrication of Ancient Indian Punch-marked Coins, INC 3.2 (1964), 121—134.

GUPTA, P. L., Roman Coins from Andhra Pradesh, Andhra Pradesh Government Museum Series no. 10 (Hyderabad 1965).

GUPTA, P. L., The Early Coins from Kerala, Kerala State Department of Archaeology Series no. 1 (Trivandrum 1966).

GUPTA, P. L., The Chronology of Punch-marked Coins, in: A. K. NARAIN and L. GOPAL (eds.), Seminar Papers on the Chronology of the Punch-marked Coins, Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 1 (Varanasi 1966), 1—18.

GUPTA, P. L., Evidence from Taxila on the Dating of the Punch-Marked Coins, JNSI 19 (1967), 5—8.

GUPTA, P. L., The Bearing of Local Coins on the History of Northern India, in: A. K. NARAIN (ed.), Seminar Papers on the Local Coins of Northern India ca. 300 B.C. to 300 A.D., Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 2 (Varanasi 1968), 147—156.

GUPTA, P. L., The Coinage of the Local Kings of Northern India and the Date of Kaniṣka, in: A. L. BASHAM (ed.), Papers on the Date of Kaniṣka (Leiden 1968), 114—120.

GUPTA, P. L., The Coinage of the Satavahanas. Types and their Regional Distribution, in: A. M. SHASTRI (ed.), Coinage of the Satavahanas and Coins from Excavations (Nagpur 1972), 41—61.

GUPTA, P. L., Satavahana Coins from Excavations, in: A. M. SHASTRI (ed.), Coinage of the Satavahanas and Coins from Excavations (Nagpur 1972), 128—141.

GUPTA, P. L., An Interesting Treasure—Trove from Weepangandla (Mahboobnagar), JNSI 34 (1972), 1—8.

GUPTA, P. L., A Kushana Coin with Brahmi Legend, JNSI 35 (1973), 123—126.

GUPTA, P. L., Kushana-Murunda Rule in Eastern India-Numismatic Evidence, JNSI 36 (1974), 25—53.

GUYER, S., Eski Hissar, ein römisches Lagerkastell im Gebiet von Edessa, in: Mélanges Syriens offerts à Monsieur René Dussaud, I (Paris 1939), 183—190.

HAATVEDT, R. A., and PETERSON, E. E., Coins from Karanis, The University of Michigan Excavations, 1924—1935 (Ann Arbor 1964).

HABEREY, W., Dickwandige Schliffbecher und Diatrete, KJVFG 5 (1960/61), 36—37.

HACKENS, T., Trésor de tétradrachmes alexandrins de l'époque impériale, BCH 89.2 (1965), 383—389.

HACKIN, J., Répartition des monnaies anciennes en Afghanistan, JA 226 (1935), 287—292.

HACKIN, J., Recherches archéologiques en Asie Centrale 1931 (Paris 1936).

HACKIN, J., Les fouilles de Begram (1939), in: J. HACKIN (ed.), Nouvelles recherches archéologiques à Begram, MDAFA 11 (Paris 1954), 11—16.

HACKIN, J., and HACKIN, J. R., Recherches archéologiques à Begram, Chantier no. 2 (1931), MDAFA 9 (Paris 1939).

HACKIN, J., Incised and Carved Ivory Plaques from Begram, Afghanistan, BII 6.1/4—7.1 (1946), 20—21.

HADFIELD, R., Sinhalese Iron and Steel of Ancient Origin, JISI 85.1 (1912), 134—186.

HADI, H., A History of Persian Navigation (London 1928).

HAERINCK, E., Quelques monuments funéraires de l'ile de Kharg dans le Golfe Persique, Iranica Antiqua 11 (1975), 134—159.

HAERTEL, H., Excavations at Sonkh (Mathura District) 1966—67, BMAUP 1 (1968), 3—8.

HAERTEL, H., Excavations at Sonkh (Mathura District) 1967—68, BMAUP 2 (1968), 3—5.

HAERTEL, H., Excavations at Sonkh (Mathura District) 1968—69, BMAUP 3 (1969), 1—5.

HAERTEL, H., Excavations at Sonkh (Mathura District) 1969—70, BMAUP 5/6 (1970), 1—4.

HAEVERNICK, T. E., Zu dem Diatret von Termantia, MDAI(M) 12 (1971), 202—204.

HAGEDORN, P., Quittung eines Reiters über Empfang von Gerste, ZPE 1 (1967), 133—142.

HAGEDORN, D. and U., Abrechnung von Steuereinnehmern, in: A. E. HANSON (ed.), Collectanea Papyrologica. Texts Published in Honour of H. C. Youtie, vol. 1, Papyrologische Texte und Abhandlungen 19 (Bonn 1976), 275—280.

HAHN, I., Sassanidische und spätrömische Besteuerung, AAntHung 7 (1959), 149—160.

HAIG, M. R., The Indus Delta Country: A Memoir (London 1894), 24—33.

HAJNAL, M., Die Untersuchungen der Textilien aus dem neuen Mumiengrab in Aquincum, ArchErt 91 (1964), 193.

HAJNAL, L., Textiles from the Graves of Late Roman Brigetio, AAntHung 13 (1965), 259—266.

HALL, R. N., and NEAL, W. G., The Ancient Ruins of Rhodesia (Monomotapae imperium), vol. 2 (London 1904).

HALLIER, U. W., Fort, Atashgah und Chahar Taq von Nakhlak. Überreste einer sasanidischen Bergbausiedlung, AMI N.F. 5 (1972), 285—307.

Hallier, U. W., Qual'eh Zari, ein prä-islamisches Fort in Ostpersien, AMI N.F. 6 (1973), 189—196.

Hallier, U. W., Neh — Eine Parthische Stadt in Ostpersien, AMI N.F. 7 (1974), 173—190.

Hallier, U. W., Ribat-i Sefid (Khorasan), AMI N.F. 8 (1975), 143—165.

Hallock, R. T., A New Look at the Persepolis Treasury Tablets, JNES 19 (1960), 90—100.

Hallock, R. T., Persepolis Fortification Tablets, OIP 92 (Chicago 1969).

Haloun, G., Zur Üe-tṣï-Frage, ZDMG 91 (1937), 243—318.

Haloun, G., The Liang-Chou Rebellion, 184—221 A. D., AM n. s. 1 (1949—1950), 119—132.

Haloun, G., and Henning, W. R., The Compendium of the Doctrines and Styles of the Teaching of Mani, The Buddha of Light, AM n. s. 3.2 (1952), 184—212.

Hamelin, P., Sur quelques verreries de Begram, Cahiers de Byrsa 2 (1952), 11—25.

Hamelin, P., Matériaux pour servir à l'étude des verreries de Bégram, Cahiers de Byrsa 3 (1953), 121—129.

Hamelin, P., Matériaux pour servir à l'étude des verreries de Bégram, Cahiers de Byrsa 4 (1954), 153—183.

Hamelin, P., Gobelet de verre émaillé du Musée d'Alger, Libyca 3 (1955), 87—99.

Hamilton, J. R., Alexander and the Aral, CQ n. s. 21.1 (1971), 106—111.

Hamilton, R. A. B., Archaeological Sites in the Western Aden Protectorate, GJ 101.2 (1943), 110—117.

Hammer, J., Der Feingehalt der griechischen und römischen Münzen, ZfN 26 (1907—1908), 1—144.

Hammond, M., Corbulo and Nero's Eastern Policy, HSCPh 45 (1934), 81—104.

Hammond, M., The Nabataean Bitumen Industry at the Dead Sea, BibArch 22 (1959), 2. 40—48.

Han Wai Toon, A Study on Johore Lama, JSSS 5.2 (1948), 17—35.

Hančar, F., Die Skythen als Forschungsproblem, in: G. Behrens and J. Werner (eds.), Reinecke Festschr., zum 75. Geburtstag von Paul Reinecke (Mainz 1950), 67—83.

Hančar, F., The Eurasian Animal Style and the Altai Complex, Artibus Asiae 15 (1952), 171—194.

Handschin, E., Wild Silk Moths, CRev 53 (1946), 1915—1922.

Hang, W., The T'ang Bureau of Historiography before 705, HJAS 23 (1960/1961), 93—107.

Hann, J., Beginn und Ende der beiden Monsune zu Vizagapatam (Vorderindien), Meteorologische Zeitschrift 28 (1911), 412.

Hannestad, K., Septimius Severus in Egypt, a Contribution to the Chronology of the Years 198—202, C&M 6 (1944), 194—222.

Hannestad, K., Les relations de Byzance avec la Transcaucasie et l'Asie Centrale aux 5e et 6e siècles, Byzantion 25/27.2 (1955/57), 421—456.

Hansman, J., Charax and the Karkheh, Iranica Antiqua 7 (1967), 21—58 (= Mélanges Ghirshman II).

Hansman, J., The Problems of Qūmis, JRAS (1968), 111—139.

Hansman, J., and Stronach, D., Excavations at Shahr-i Qumis, 1967, JRAS (1970), 29—62.

Hansman, J., A Periplus of Magan and Meluḫḫa, BSOAS 36.3 (1973), 554—587.

Hansman, J., and Stronach, D., Excavations at Shahr-i Qūmis, 1971, JRAS (1974), 8—22.

Hansman, J., A Further Note on Magan and Meluḫḫa, BSOAS 38.3 (1975), 609—610.

Hanson, A. E., A Ptolemaic List of Aromata and Honey, TAPhA 103 (1972), 161—165.

Harada, Yoshito, Ancient Glass in the History of Cultural Exchange between East and West, Acta Asiatica 3 (1962), 57—69.

Hardaker, T. R., A New Hoard of Indian Copper Punch-Marked Coins from Madhya Pradesh, NC 7 ser. 14 (1974), 31—41.

Harden, D. B., Romano-Syrian Glasses with Mould-Blown Inscriptions, JRS 25 (1935), 163—186.

Harden, D. B., Roman Glass from Karanis (Ann Arbor 1936).

Harden, D. B., Two Tomb-Groups of the First Century A.D. from Yahmour, Syria, and a Supplement to the List of Romano-Syrian Glasses with Mould-Blown Inscriptions, Syria 24 (1944/45), 81—95.

Harden, D. B., A Roman Sports Cup, Archaeology 11.1 (1958), 2—5.

Harden, D.B., and Toynbee, J., The Rothschild Lycurgus Cup, Archaeologia 91 (1959), 179—212.

Harden, D. B., The Rothschild Lycurgus Cup: Addenda and Corrigenda, JGS 5 (1963), 9—17.

Harden, D. B., Late Roman Wheel-Inscribed Glasses with Double-Line Letters, KJVFG 9 (1967/68), 43—55.

Harden, D. B., Ancient Glass, II: Roman, AntJ 126 (1969), 44—77.

Harding, G. L., Safaitic Inscriptions from Lebanon, ADAJ 16 (1971), 83—85.

Hargreaves, H., Excavations at Shāh-jī-kī Dhērī, ASIAnRep (1910/1911), 25—32.

Harmatta, J., The Parthian Parchment from Dura Europos (Dura Parchment no. 12), AAntHung 5 (1957), 261—308.

Harmatta, J., Die parthischen Ostraka aus Dura-Europos, AAntHung 6 (1958), 87—175.

Harmatta, J., Das Problem der Kontinuität im frühhellenistischen Ägypten, AAntHung 11 (1963), 199—213.

Harmatta, J., Sino-Indica, AAntHung 12 (1964), 3—21.

Harmatta, J., Die sassanidischen Siegelinschriften als geschichtliche Quellen, AAntHung 12 (1964), 217—230.

Harmatta, J., The Great Bactrian Inscription, AAntHung 12 (1964), 373—471.

Harmatta, J., Iz istorii Alano-Parfianskikh otnosheniĭ, AAntHung 13 (1965), 127—147.

Harmatta, J., Minor Bactrian Inscriptions, AAntHung 13 (1965), 149—205.

Harmatta, J., Zu den griechischen Inschriften des Aśoka, AAntHung 14 (1966), 77—85.

Harmatta, J., New Evidences for the History of Early Medieval Northwestern India, AAntHung 14 (1966), 423—462.

Harmatta, J., K interpretatsii nadpisei na keramike iz Kara Tepe, in: Buddiiskie peshchery Kara-Tepe v Starom Termeze (Moscow 1969), 32—39.

Harmatta, J., Bactrian Wall-Inscriptions from Kara-Tepe, in: Buddiiskie peshchery Kara-Tepe v Starom Termeze (Moscow 1969), 82—125.

Harmatta, J., Eine neue Quelle zur Geschichte der Seidenstraße, JWG (1971), 2. 135—143.

Harmatta, J., The Middle Persian-Chinese Bilingual Inscription from Hsian and the Chinese Sasanian Relations, in: Convegno internazionale sul tema: La Persia nel Medioevo, Roma, 31 marzo—5 aprile, 1970, Accademia nazionale dei Lincei, Quaderno no. 160 (Rome 1971), 363—376.

Harmatta, J., The Bactrian Inscriptions at Kara Tepe, in: Proc. of the International Conf. on the Hist., Arch. and Culture of Central Asia in the Kushan Period, Dushanbe Sept. 27—Oct. 6, 1968 (Moscow 1974), 328—333.

Harper, G. M., Commercial Relations between Egypt and Syria, AJPh 49 (1926), 1—35.

Harper, G. M. Jr., Tax Contractors and their Relation to Tax Collection in Ptolemaic Egypt, Aegyptus 14 (1934), 49—64.

Harper, R. P., Excavations in 1968 at Pağnik Öreni, AnSt 19 (1969), 4.

Harper, R. P., Pağnik Öreni' Roman Fort, 1971, AnSt 22 (1972), 27—28.

Harris, W. V., On War and Greed in the Second Century B.C., AHR 76.5 (1971), 1371—1385.

Harrisson, B., Recent Archaeological Discoveries in Malaysia 1962—1963: Borneo, JMBRAS 37.2 (1964), 193—200.

Harrisson, B., A Classification of Archaeological Trade Ceramics from Kota Batu, Brunei, BMJ 2.1 (1970), 114—188.

Harrisson, T., Megalithic Remains in South Sumatra and Central Borneo, JSSS 5.2 (1948), 41—46.

Harrisson, T., Gold and Hindu Influences in West Borneo, JMBRAS 22 (1949), 33—110.

Harrisson, T., Some Ceramics Excavated in Borneo, TOCS 28 (1953/54), 11—21.

Harrisson, T., Indian Pioneers in Borneo: c. 500 AD. on . . ., SMJ 6 (1955), 511—517.

Harrisson, T., The Caves of Niah. A History of Prehistory, SMJ 8 (1958), 549—595.

Harrisson, T., New Archaeological and Ethnological Results from Niah Caves, Sarawak, Man 59 (Jan. 1959), art. no. 1, 1—8.

Harrisson, T., Translucent Glass Rings from Borneo, AP 6 (1962), 236—238.

Harrisson, T., Monochrome Glass Beads from Malaysia and Elsewhere, Man 64 (March/April 1964), art. no. 50, 37—41.

HARRISSON, T., Recent Archaeological Discoveries in Malaysia, 1964, JMBRAS 38.1 (1965), 244—247.

HARRISSON, T., Recent Archaeological Discoveries in East Malaysia and Brunei, JMBRAS 40.1 (1967), 140—148.

HARRISSON, T., and O'CONNOR, S. J., The Tantric Shrine Excavated at Santubong, SMJ 15 (1967), 201—222.

HARRISSON, T., and O'CONNOR, S. J., The Prehistoric Iron Industry in the Sarawak River Delta: Evidence by Association, SMJ 16 (1968), 1—54.

HARRISSON, T., New Analyses of Excavated Prehistoric Glass from Borneo, AP 11 (1968), 125—133.

HARRISSON, T., Tangong Tegoki: a Prehistoric Cemetery on the South China Sea, SMJ 16 (1968), 55—63.

HARRISSON, T., and O'CONNOR, S. T., Excavations of the Prehistoric Iron Industry in West-Borneo, 2 vols., Data Paper no. 12, Southeast Asia Program, Department of Asian Studies, Cornell University (Ithaca 1969).

HARRISSON, T., and O'CONNOR, S. J., Gold in West Borneo, SMJ 17 (1969), 1—66.

HARRISSON, T., The Golden Hoard of Limbang, BMJ 1.1 (1969), 57—71.

HARRISSON, T., The Prehistory of Borneo, AP 13 (1970), 17—41.

HARRISSON, T., First Radio-Carbon Test Dates from Kota Batu, Brunei and Associated Dating Problems in Borneo, BMJ 2.1 (1970), 189—197.

HARRISSON, T., Deep Level Carbon Dates from Kota Batu, Brunei (95 B.C. to 1300 A.D.), BMJ 2.3 (1971), 96—107.

HARRISSON, T., Further Radio-Carbon (C-14) Dates from Kota Batu, Brunei — Back to 12,500 B.C., BMJ 2.4 (1972), 209—217.

HARRISSON, T., Ancient Glass Beads from Brunei and Sarawak Excavations (Compared), BMJ 3.1 (1973), 118—126.

HARTWEG, R., Observations odontologiques sur les crânes provenant des anciennes sépultures dites 'Arabes' de Vohémar, BAM 28 (1947/48), 50—58.

HARTWELL, R. M., Financial Expertise, Examinations and the Formulation of Economic Policy in Northern Sung China, JAS 30.2 (1971), 281—312.

HARTWIG, G. W., Long-Distance Trade and the Evolution of Sorcery among the Kerebe, AfrHistStud 4.3 (1971), 505—524.

HASEBROEK, J., Trade and Politics in the Ancient World (London 1933).

HASKINS, J. F., Pazyrik: the Valley of the Frozen Tombs, BNBC 40. 1/2 (1956), 2—47.

HATZFELD, J., Les Italiens residant à Delos, BCH 36 (1912), 1—218.

HATZFELD, J., Les trafiquants italiens dans l'orient hellénique, BEFAR 115 (Paris 1919).

HAUBEN, H., An Annotated List of Ptolemaic Naukleroi with a Discussion of BGU X.1933, ZPE 8.3 (1971), 259—275.

HAUGHTON, H. L., Notes on Greek and Kushan Coins from N. W. India, NC 6 ser. 6 (1946), 141—145.

HAUSSIG, H. W., Theophylakts Exkurs über die skythischen Völker, Byzantion 23 (1953), 275—462.

HAUSSOULLIER, B., Inscriptions grecques de Babylone, Klio 9 (1909), 352—363.

HAYCOCK, B. G., Towards a Date for King Ergamenes, Kush 13 (1965), 264—266.

HAYCOCK, B. G., The Later Phases of Meroïtic Civilization, JEA 53 (1967), 107—120.

HAYES, R. O., The Distribution of Meroitic Archer's Rings: An Outline of Political Borders, Meroitica 1 (1973), 113—122.

HAYWARD, J., Roman Mold-Blown Glass at Yale University, JGS 4 (1962), 49—60.

HEAD, B. V., On Himyarite and Other Arabian Imitations of Coins of Athens, NC 2 ser. 18 (1878), 273—284.

HEAD, B. V., A Catalogue of Greek Coins in the British Museum: Attica, Megaris, Aegina (London 1888).

HEALY, J. F., The Composition of Mytilenean Electrum, in: Congrès International de numismatique 6—11 Juillet (1953), vol. 2 (Paris 1957), 529—536.

HEALY, J. F., Notes on the Monetary Union between Mytilene and Phokaia, JHS 77.2 (1957), 267—268.

HEALY, J. F., Greek Refining Techniques and the Composition of Gold-Silver Alloys, RBN 120 (1974), 19—33.

HEGDE, K. T. M., Chemical and Spectrometric Studies in the Kshatrapa Silver Coins, JNSI 29.1 (1967), 63—66.

HEGDE, K. T. M., Source of the Metal in the Lead Coins of the Kshatrapa Period, Current Science 37 no. 18 (1968), 518—520.

HEICHELHEIM, F. M., Die auswärtige Bevölkerung im Ptolemäerreich, Klio Beiheft 18 (Leipzig 1925).

HEICHELHEIM, F. M., Nachtrag zur Prosopographie der auswärtigen Bevölkerung im Ptolemäerreich, APF 99. 1/2 (1928), 47—55.

HEICHELHEIM, F. M., Zu Pap. Bad. 37, ein Beitrag zur römischen Geldgeschichte unter Trajan, Klio 25 (1932), 124—131.

HEICHELHEIM, F. M., Zur Währungskrisis des römischen Imperiums im 3. Jahrh. n. Chr., Klio 26 (1932), 96—113.

HEICHELHEIM, F. M., Zu Pap. Berol. 5883 + 5853, Aegyptus 13 (1933), 187—192.

HEICHELHEIM, F. M., Zu Pap. Osl. 83, SO 14 (1935), 82—85.

HEICHELHEIM, F. M., Review of E. LEIDER, Der Handel von Alexandreia (Diss. Hamburg 1934), PhW (Jan. 25, 1936), 74—77.

HEICHELHEIM, F. M., Zu Pap. Michigan III.173 und Hesperia V (1936), 419ff., Nr. 15, Aegyptus 17 (1937), 61—64.

HEICHELHEIM, F. M., Nachtrag II: Zur Prosopographie der auswärtigen Bevölkerung im Ptolemäerreich, APF 12. 1/2 (1937), 54—64.

HEICHELHEIM, F. M., Roman Syria, ESAR 4 (Baltimore 1938), 123—257.

HEICHELHEIM, F. M., An Alexandrian Decree of 175/174 B.C., JEA 26 (1940), 154—156.

HEICHELHEIM, F. M., Supply Bases for Caracalla's Parthian Campaign, CPh 39.2 (1944), 113—115.

HEICHELHEIM, F. M., Recent Discoveries in Ancient Economic History, Historia 2 (1953), 129—135.

HEICHELHEIM, F. M., On Ancient Price Trends from the Early First Millennium B.C. to Heraclius, Finanzarchiv N.F. 15 (1955), 498—511.

HEICHELHEIM, F. M., An Ancient Economic History from the Palaeolithic Age to the Migrations of the Germanic, Slavic, and Arabic Nations, 3 vols. (Leiden 1958).

HEINE-GELDERN, R. VON, Urheimat und früheste Wanderung der Austronesier, Anthropos 27. 3/4 (1932), 543—619.

HEINE-GELDERN, R. VON, Prehistoric Research in the Netherlands Indies, in: Science and Scientists in the Netherlands Indies (New York 1945), 129—167.

HEINE-GELDERN, R. VON, Das Tocharerproblem und die Pontische Wanderung, Saeculum 2 (1951), 225—255.

HEINS, E. L., Indonesian Colonization of West- and Central-Africa?, BKI 122 (1966), 274—282.

HEITLAND, W. E., The Roman Republic, vol. 2 (Cambridge 1909).

HELCK, W., Die Beziehungen Ägyptens zu Vorderasien im 3. und 2. Jahrtausend v. Chr., Ägyptologische Abhandlungen 5 (Wiesbaden 1962).

HEMMERDINGER, B., Comptes de chasseurs d'éléphants (P. Petrie III.114), APF 20 (1970), 25—28.

HEMMY, A. S., The Weight-Standards of Ancient Greece and Persia, Iraq 5 (1938), 65—81.

HENDY, M. F., On the Administrative Basis of the Byzantine Coinage c. 400—c. 960 and the Reforms of Heraclius, Birmingham Univ. Hist. Journal, 12.2 (1970), 129—154.

HENDY, M., Mint and Fiscal Administration under Diocletian, his Colleagues, and his Successors, AD. 305—334, JRS 62 (1972), 75—82.

HENNE, H., Liste des stratèges des nomes égyptiens, à l'époque gréco-romaine, MemIFAO 56 (Paris 1935).

HENNE, H., Sur deux stratèges d'une inscription grecque de Coptos, RevPh 3 ser. 10 (1936), 318—324.

HENNE, H., Sur la titulature aulique des stratèges de nomes à l'époque ptolémaïque, REA 42 (1940), 172—186.

Henne, H., PSI 901 et la police de la pêche dans l'Égypte Gréco-romaine dans ses rapports avec la religion, Aegyptus 31 (1951), 184—191.

Hennequin, G. P., Problèmes théoriques et pratiques de la monnaie antique et médiévale, Annales Islamologiques 10 (1972), 1—51.

Hennig, R., Herodots 'Goldhütende Greifen' und 'Goldgrabende Ameisen', RhM N.F. 79 (1930), 326—332.

Hennig, R., Die Einführung der Seidenraupenzucht ins Byzantinerreich, BZ 33 (1933), 295—312.

Hennig, R., Indienfahrten abendländischer Christen im frühen Mittelalter, AfK 25 (1935), 269—280.

Hennig, R., Herodots Handelsweg zu den sibirischen Issedonen, Klio 28.3 (1935), 242—254.

Hennig, R., Terrae Incognitae, 4 vols. (Leiden 1936).

Hennig, R., Κιννάμωμον und κινναμωφόρος χώρα in der antiken Literatur, Klio 32 (1939), 325—330.

Henning, W. B., Argi and the Tokharians, BSOS 9.3 (1938), 545—571.

Henning, W. B., The Great Inscription of Šāpūr I, BSOS 9.3 (1938), 823—849.

Henning, W. B., Waručān = Šāh, JGIS 11.2 (1944), 85—90.

Henning, W. B., Two Manichaean Magical Texts with an Excursus on the Parthian Ending -ēndēh, BSOAS 12.1 (1947), 39—66.

Henning, W. B., The Date of the Sogdian Ancient Letters, BSOAS 12. 3/4 (1948), 601—615.

Henning, W. B., The Name of the 'Tokharian' Language, AM 1 (1949), 158—162.

Henning, W. B., The Aramaic Inscription of Asoka Found at Lampāka, BSOAS 13 (1949), 80—88.

Henning, W. B., The Monuments and Inscriptions of Tang-i Sarvak, Asia Major 2 (1952), 151—178.

Henning, W. B., Review of F. Altheim and R. Stiehl, Asien und Rom. Neue Urkunden aus sasanidischer Frühzeit (Tübingen 1952); and Idem, Das erste Auftreten der Hunnen. Das Alter der Jesaja-Rolle. Neue Urkunden aus Dura-Europos (Baden-Baden 1953), Gn 26 (1954), 476—480.

Henning, W. B., The Bactrian Inscription, BSOAS 23.1 (1960), 47—55.

Henning, W. B., The Choresmian Documents, AM n. s. 11 (1964/65), 166—179.

Henrichs, A., Vespasians Visit to Alexandria, ZPE 3.1 (1968), 51—80.

Henrichs, A., and Koenen, L., Ein griechischer Mani-Codex, ZPE 5.2 (1970), 97—216.

Hepper, F. M., An Ancient Expedition to Transplant Living Trees, Journal of the Royal Horticultural Society 92 (1967), 436—438.

Hepper, F. M., Arabian and African Frankincense Trees, JEA 55 (1969), 66—72.

Herbert, E. W., Aspects of the Use of Copper in Pre-Colonial West Africa, JAH 14.2 (1973), 179—184.

Herrmann, A., Die alten Seidenstraßen zwischen China und Syrien, I, Quellen und Forschungen zur alten Geschichte und Geographie, Heft 21 (Berlin 1910).

Herrmann, A., Ein alter Seeverkehr zwischen Abessinien und Süd-China bis zum Beginn unserer Zeitrechnung, Zeitschrift d. Gesellsch. f. Erdkunde zu Berlin (1913), 553—561.

Herrmann, A., Die Westländer in der chinesischen Kartographie, in: S. Hedin, Southern Tibet, vol. 8 (Stockholm 1922), 91—406.

Herrmann, A., Lou-lan: China, Indien und Rom im Lichte der Ausgrabungen am Lobnor (Leipzig 1931).

Herrmann, A., Ta-ch'in oder das China des fernen Westens, MS 6 (1941), 212—272.

Herrmann, G., Lapislazuli: The Early Phases of its Trade, Iraq 30 (1968), 21—57.

Herrmann, J., Zinssätze und Zinsgeschäfte im Recht der gräko-ägyptischen Papyri, JJP 14 (1962), 23—31.

Herrmann, P., Die Inschriften römischer Zeit aus dem Heraion von Samos, MDAI(A) 75 (1960), 68—183.

Herrmanns, M., Die Nomaden von Tibet (Vienna 1949).

Herzfeld, E., Hatra, ZDMG 68 (1914), 655—676.

Herzfeld, E., Paikuli, Monument and Inscription of the Early History of the Sasanian Empire (Berlin 1924).

HERZFELD, E., The Hoard of the Karen Pahlavs, BurlMag 52.1 (1928), 21—27.

HERZFELD, E., Kushano-Sassanian Coins, MemASI no. 38 (Calcutta 1930).

HERZFELD, E., Sakastan: Geschichtliche Untersuchungen zu den Ausgrabungen am Kūh i Khwādja, AMI 4.1 (1931), 1—44; 4.2 (1932), 45—116.

HERZFELD, E., Archaeological History of Iran (London 1935).

HERZFELD, E., Iran in the Ancient East (London/New York 1941).

HERZFELD, E. (ed. G. WALSER), The Persian Empire, Studies in Geography and Ethnography of the Ancient Near East (Wiesbaden 1968).

HERZOG, R., Aus der Geschichte des Bankwesens im Altertum: Tesserae nummulariae, Abhandlungen der Gießener Hochschulgesellschaft 1 (Gießen 1919).

HERZOG, R., Punt, Abh. DAI(K) Ägypt. Reihe 6 (Glückstadt 1968).

HESTER, J. J., HOBLER, P. M., and RUSSELL, J., New Evidence of Early Roads in Nubia, AJA 74.4 (1970), 385—389.

HEUZEY, L., Un Dieu Cavalier, CRAI (1902), 190—200.

HEYEN, G. H., Primitive Navigation in the Pacific, in: J. GOLSON (ed.), Polynesian Navigation: A Symposium on Andrew Sharp's Theory of Accidental Voyages, JPS Supplement Memoir no. 34 (Wellington 1963), 64—79.

HIBBERT, A. B., Origins of the Medieval Town Patriciate, P&P 3 (1953), 15—27.

HIBING, T., Kan no seihō hatten to ryōkan kaisetsu no jiki ni tsuite, Tōhō gakuhō 27 (1957), 31—58; cf. RBS 3 (1957), no. 160.

HIGHET, G., Juvenal the Satirist. A Study (Oxford 1954).

HIGUCHI, I., Kyoto University Mission's Work in the Kushan Area, in: Proc. of the International Conf. on the Hist., Arch. and Culture of Central Asia in the Kushan Period, Dushanbe Sept. 27—Oct. 6, 1968 (Moscow 1974), 177—179.

HILL, G. F., Roman Aurei from Pudukota, South India, NC 3 ser. 18 (1898), 304—320.

HILL, G. F., Answer to W. Theobald, NC 3 ser. 19 (1899), 82.

HILL, G. F., The Ancient Coinage of Southern Arabia, PBA (1915), 57—84.

HILL, G. F., A Catalogue of Greek Coins in the British Museum. Catalogue of the Greek Coins of Arabia, Mesopotamia, and Persia (London 1922).

HILL, G. F., Alexandrian and Ptolemaic Coins Found in England, NC 5 ser. 10 (1930), 335—338.

HILL, H., The Roman Middle Class in the Republican Period (Oxford 1952).

HILPRECHT, H. V., Explorations in Bible Lands during the 19th Century (Philadelphia 1903).

HILZHEIMER, M., Zur geographischen Lokalisierung von Punt, ZÄS 68 (1932), 112—114.

HINKS, R. P., A Bronze Head from the Yemen Lent by H. M. the King, BMQ 11 (1936/37), 153—154.

HINO, K., Government Monopoly on Salt in T'ang in the Period before the Enforcement of the Liang Shui FA, MTB 22 (1963), 1—55.

HINTZE, F., Studien zur Meroitischen Chronologie und zu den Opfertafeln aus den Pyramiden von Meroe, ADAW 2 (Berlin 1959).

HINTZE, F., Preliminary Report of the Butana Expedition 1958, Kush 7 (1959), 171—196.

HINTZE, F., Preliminary Report on the Excavations at Musawwarat-es-Sufra, 1960—1961, Kush 10 (1962), 170—202.

HINTZE, F., The Latin Inscription from Musawwarat-es-Sufra, Kush 12 (1964), 296—298.

HINTZE, F., Meroe und die Noba, ZÄS 94 (1967), 79—86.

HINTZE, F., Meroitic Chronology: Problems and Prospects, Meroitica 1 (1973), 127—144.

HINZ, W., The Elamite Version of the Record of Darius's Palace at Susa, JNES 9.1 (1950), 1—7.

HINZ, W., Das sasanidische Felsrelief von Salmās, Iranica Antiqua 5 (1965), 148—160.

HINZ, W., Die Inschrift des Hohenpriesters Kardēr am Turm von Naqsh-e Rostam, AMI N.F. 3 (1970), 251—265.

HINZ, W., Mani und Karder, in: Convegno internazionale sul tema: La Persia nel Medioevo, Roma, 31 marzo—5 aprile, 1970, Accademia nazionale dei Lincei, Quaderno no. 160 (Rome 1971), 485—499.

HINZ, W., Das sasanidische Felsrelief von Tang-e Qandil, AMI N.F. 6 (1973), 201—212.

HINZ, W., Darius und der Suezkanal, AMI N.F. 8 (1975), 115—121.

HIRANAKA, R., Kandai no denso to saigai ni yoru sono gemmen, pt. 1, Ritsumeikan bungaku (1959), 523—534, cf. RBS (1959), no. 100.

HIRSCHFELD, O., Die kaiserlichen Verwaltungsbeamten bis auf Diocletian^2 (Berlin 1905).

HIRSCHFELD, O., Gallische Studien, 1: Die Civitates foederatae im narbonensischen Gallien, SAWW 103 (1883), 271—328 = ID., Kleine Schriften (Berlin 1913), 47—95.

HIRSCHFELD, O., Die Sicherheitspolizei im römischen Kaiserreich, SPAW (1891), 845—877 = ID., Kleine Schriften (Berlin 1913), 576—612.

HIRSCHFELD, O., Die ägyptische Polizei der römischen Kaiserzeit, SPAW (1892), 815—824 = ID., Kleine Schriften (Berlin 1913), 613—623.

HIRTH, F., China and the Roman Orient (Shanghai/Hong Kong 1885).

HIRTH, F., Zur Geschichte des Antiken Orienthandels, in: F. HIRTH, Chinesische Studien, vol. 1 (Munich/Leipzig 1890), 1—24.

HIRTH, F., Zur Geschichte des Orienthandels im Mittelalter, in: F. HIRTH, Chinesische Studien, vol. 1 (Munich/Leipzig 1890), 25—43.

HIRTH, F., Zur Geschichte des Glases in China, in: F. HIRTH, Chinesische Studien, vol. 1 (Munich/Leipzig 1890), 62—67.

HIRTH, F., Die chinesischen Annalen als Quelle zur Geschichte asiatischer Völker, in: F. HIRTH, Chinesische Studien, vol. 1 (Munich/Leipzig 1890), 68—75.

HIRTH, F., Über die chinesischen Quellen zur Kenntnis Zentralasiens unter der Herrschaft der Sassaniden etwa in der Zeit 500 bis 650, WZKM 10 (1896), 225—241.

HIRTH, F., Über die Wolga-Hunnen und Hiung-nu, SBAW (1899), 2. 245—278.

HIRTH, F., Mr. Kingsmill and the Hsiung-nu, JOAS 30 (1909—1910), 32—45.

HIRTH, F., The Mystery of Fu-lin, JOAS 30 (1909—1910), 1—31.

HIRTH, F., and ROCKWELL, W. W., Chau-Ju-Kua. His Work on the Chinese and Arab Trade in the Twelfth and Thirteenth Centuries (St. Petersburg 1912).

HIRTH, F., The Story of Chang K'ien, China's Pioneer in Western Asia — Text and Trans. of Chapter 123 of Ssï-ma Ts'ien's Shï-ki, JAOS 37 (1917), 89—152.

HITTI, P. K., History of the Arabs (New York 1968).

HOBSON, R. L., Potsherds from Brahminabad, TOCS 8 (1928—1930), 21—23.

HÖFNER, M., MLAKER, K., and RHODOKANAKIS, N., Zur altsüdarabischen Epigraphik und Archäologie, II, WZKM 41. 1/2 (1934), 69—106.

HÖFNER, M., Die Beduinen in den vorislamischen arabischen Inschriften, in: L'Antica Società Beduina, Studi Semitici, vol. 2 (Rome 1959), 53—68.

HOERNLE, A. F. R., Gold Coins from Jalalábád, PASB 46 (1879), 122—135.

HOERNLE, A. F. R., Report on an Ornament of Ancient Gold Coins, PASB 53 (1886), 86—89.

HOFFMANN, H. H. R., The Tibetan Names of the Saka and the Sogdians, AsSt 25 (1971), 440—455.

HOFMANN, I., Eine neue Elefantengott-Darstellung aus dem Sudan, JEA 59 (1972), 245—247.

HOHL, E., Über den Ursprung der Historia Augusta, Hermes 55 (1920), 296—310.

HOHLWEIN, N., Déplacements et tourisme dans l'Égypte romaine, CE 15 (1940), 253—278.

HOLMES, T. R., The Architect of the Roman Empire, 2 vols. (Oxford 1928—1931).

HOLZMAIR, E., Rechnung und Zahlung, in: CPANS, ed. H. INGHOLT (New York 1958), 353—366.

HOMBURGER, L., Indians in Africa, Man (Feb. 1956), art. no. 24, 18—21.

HOMMEL, H., Ein antiker Bericht über die Arbeitsgänge der Münzherstellung, SM 15 (1965), 111—121.

HOMO, L., Une leçon d'outre-tombe: Vespasien financier, REA 42 (1940), 453—465.

HONEYMAN, A. M., The Hombrechtikon Plaque, Iraq 16 (1954), 23—28.

HONIGMANN, E., and MARICQ, A., Recherches sur les Res Gestae Divi Saporis, MémARB 47.4 (Bruxelles 1952).

HOPFNER, T., Die Brachmanen Indiens und die Gymnosophisten Ägyptens in der Apolloniosbiographie des Philostratos, ArchOr 6 (1934), 58—67.

HORNELL, J., Sea-trade in Early Times, Antiquity 15 (1941), 233—256.

HORNELL, J., A Tentative Classification of Arab Sea-Craft, MM 28 (1942), 11—40.

HORNELL, J., The Outrigger Canoes of Madagascar, East Africa and the Comoro Islands, MM 30 (1944), 3—18; 170—185.

Hourani, G. F., Direct Sailing between the Persian Gulf and China in Pre-Islamic Times, JRAS (1947), 157—160.

Hourani, G. F., Arab Seafaring in the Indian Ocean in Ancient and Early Medieval Times, (Princeton 1951).

Hourani, G. F., Did Roman Commercial Competition Ruin South Arabia ?, JNES 11 (1952), 291—295.

Hourani, G. F., Ancient South Arabian Voyages to India — Rejoinder to G. W. van Beek, JAOS 80.2 (1960), 135—136.

Householder, F. W., and Prakken, O. W., A Ptolemaic Graffito in New York, TAPhA 76 (1945), 108—116.

Houston, C. O., Progress in Philippine Archaeology: 1953—1957, UMJEAS 5.2 (1956), 213—228.

Houston, R. C., A Note on Two Coin Hoards Reported in Kao Ku, ANSMN 20 (1975), 153—160.

How, W. W., and Wells, J., A Commentary on Herodotus, 2 vols. (Oxford 1912).

Hoyle, B. S., Early Port Development in East Africa. An Illustration of the Concept of Changing Port Hierarchies, TEGS 58 (1967), 94—102.

Hsia Nai, New Archaeological Discoveries, China Reconstructs no. 4 (1952), 13—18.

Hsia Nai, Chung-kuo tsui-chin fa-hsien ti Po-ssu Sa-san ch'ao yin-pi, KKHP (1957), 2.49—60.

Hsia Nai, Ch'ing-hai Hsi-ning ch'u-t'u ti Po-ssu Sa-san-ch'ao yin-pi, KKHP (1958), 1. 105—110.

Hsia Nai, Hsien-yang Ti-chang wan Sui-mu ch'u-t'u ti Tung Lo-ma chin-pi, KKHP (1959), 3. 67—74.

Hsia Nai, Zolotaia Vicantiiskaia Moneta Naidennaia v Mogile Perioda Dinastii Sui, VV 21 (1962), 178—182.

Hsia Nai, Archaeological Work during the Cultural Revolution, in: New Archaeological Finds in China^2 (Peking 1973), 1—13.

Hsieh, Chiao-min, Chu Ko'-chen and China's Climatic Changes, GJ 142.2 (1976), 248—256.

Hsü Yün-Ts'Tao, Notes on Malay Peninsula in Ancient Voyages, JSSS 5.2 (1948), 1—16.

Huard, P., Contribution à l'étude du cheval, du fer et du chameau au Sahara oriental, BIFAN ser. B 22. 1/2 (1960), 134—178.

Huard, P., and Captains Bacquié and Scheibling, Matériaux pour l'étude de l'âge du fer au Djourab (Tchad), BIFAN ser. B 25 (1963), 435—453.

Huard, P., Introduction et diffusion du fer au Tehad, JAH 7.3 (1966), 377—404.

Hubaux, J., and Leroy, M., Le mythé du Phénix dans les littératures grecque et latine, Bibliothèque de la Faculté de Philosophie et Lettres de l'Université de Liège Fasc. 82 (Liege/Paris 1939).

Hubbell, H. M., Ptolemy's Zoo, CJ 31.2 (1935), 68—76.

Hudson, A. E., Kazakh Social Structure, Yale University Publications in Anthropology no. 20 (New Haven 1938).

Hudson, G. F., Europe and China (London 1931).

Hübener, W., Zu den provinzialrömischen Waffengräbern, SJ 21 (1963/64), 20—25.

Huff, D., Qalʿa-ye Dukhtar bei Firuzabad. Ein Beitrag zur sasanidischen Palastarchitektur, AMI N.F. 4 (1971), 127—171.

Huff, D., An Archaeological Survey in the Area of Firūzābad, Fars, in 1972, in: F. Bagherzadeh, Proceedings of the 2nd Annual Symposium on Archaeological Research in Iran, 29th October—1st November 1973 (Tehran 1974), 155—179.

Huff, D., Nurabad, Dum-i Mil, AMI N.F. 8 (1975), 167—209.

Huffman, T. N., Excavations at Leopard's Kopje Main Kraal: A Preliminary Report, SAAB 26 (1971), 495—513.

Huffman, T. N., The Rise and Fall of Zimbabwe, JAH 13.3 (1972), 353—366.

Hulsewé, A. F. P., Remnants of Han Law, Sinica Leidensia 9 (Leiden 1955).

Hulsewé, A. F. P., Han-time Documents — a Survey of Recent Studies Occasioned by the Finding of Han-time Documents in Central Asia, TP 2 ser. 45 (1957), 1—50.

Hultzsch, F., Zum Papyros 413 aus Oxyrhynchos, H 39 (1904), 307—311.

Humbach, H., Die Kaniška-Inschrift von Surkh-Kotal (Wiesbaden 1960).

Humbach, H., Baktrische Sprachdenkmäler, 2 vols. (Wiesbaden 1966—1967).

HUMBACH, H., Die aramäische Inschrift von Taxila, AAWM (1969), no. 1 (Mainz 1969).
HUMBACH, H., Additional Notes on the Aramaic Inscription of Taxila, MSS 26 (1969), 39—42.
HUMBACH, H., Kara Tepe — Tochi — Surkh Kotal, MSS 28 (1970), 43—50.
HUMBACH, H., Die aramäische Aśoka-Inschrift vom Laghman-Fluß, IndTag (1971), 161—169.
HUMBACH, H., Aramaeo-Iranian and Pahlavi, AcIr 1 ser. 2 (1974) = Commémoration Cyrus: Actes du Congrès de Shiraz 1971 et autres études rédigées à l'occasion du 2500e anniversaire de la fondation de l'Empire Perse, Hommage Universel, vol. 2, 237—243.
HUNG, W., The T'ang bureau of historiography before 708, HJAS 23 (1961), 93—107.
HUSAIN, S., The Terracotta Find-Spots of Pre-Muslim Bengal, JASP 15.2 (1970), 129—137.
HUSSELMAN, E. M., Two Customs House Receipts from Egypt, TAPhA 82 (1951), 164—167.
HUSSELMAN, E. M., Pawnbrokers' Accounts from Roman Egypt, TAPhA 92 (1961), 251—266.
HUTMACHER, R., Das Ehrendekret für den Strategen Kallimachos, Beiträge zur Klassischen Philologie Heft 17 (Meisenheim a. Glan 1965).
HUTTON, J. H., West Africa and Indonesia: A Problem of Distribution, JRAI 76.1 (1946), 5—12.

IAKOBSON, A. L., Arkheologicheskie issledovaniia na gorodishche Oren-Kala v 1957 g., in: Srednevekovye Pamiatniki Azerbaidzhana, MIA 133 (Moscow/Leningrad 1965), 9—25.
IAKOVENKO, E. V., Riadovye skifskie pogrebeniia v kurganakh Vostochnogo Kryma, in: Drevnosti Vostochnogo Kryma (Kiev 1970), 113—135.
IAMPOL'SKII, Z. I., Vnov' otkrytaia latinskay nadpis' i gory Beiuk-Dash (Azerbaidzhanskai SSR), VDI (1950), 1.177—182.
IANKOVSKAIA, N. B., Chastnyi kredit v torgovle drevnei zapadnei Azii III—II Tys do n. e., in: Drevnii Vostok, goroda, torgovlia (III—I Tys do n. e.), (Erevan 1973), 17—21.
IESSEN, A. A., Raskopki bol'shego kurgana v urochishche Uch-tepe, in: Trady Azerbaidzhanskoi Arkheologicheskoi Ekspeditsii, vol. 2, MIA 125 (Moscow/Leningrad 1965), 153—194.
ILIESCU, O., Nouvelles informations relatives aux ingots romains d'or trouvés en Transylvanie, RESEE 3.1/2 (1965), 269—281.
ILIESCU, O., Le montant du tribut payé par Byzance à l'Empire Ottoman en 1379 et 1424, RESEE 9.3 (1971), 427—432.
ILIFFE, J. H., Sigillata Wares in the Near East, QDAP 6 (1936/37), 4—53.
IMBERT, H., Les rhinocéros de la Chine et de l'Indochine d'après les anciens textes, RIndo 35 (1921), 217—230.
INGHOLT, H., Studien over Palmyrensk Skulptur (Copenhagen 1928).
INGHOLT, H., Deux inscriptions bilingues de Palmyre, Syria 13 (1932), 278—292.
INGHOLT, H., Five Dated Tombs from Palmyra, Berytus 2 (1935), 57—120.
INGHOLT, H., Inscriptions and Sculptures from Palmyra, Berytus 3 (1936), 83—125.
INGHOLT, H., Inscriptions and Sculptures from Palmyra, II, Berytus 5 (1938), 93—140.
INGHOLT, H., Parthian Sculptures from Hatra. Orient and Hellas in Art and Religion, Memoirs of the Connecticut Academy of Arts and Sciences 12 (New Haven 1954).
INGHOLT, H., SEYRIG, H., and STARCKY, J., Recueil des Tessères de Palmyre, BAH 58 (Paris 1955).
INGHOLT, H., Gandhāran Art in Pakistan (New York 1957).
INGHOLT, H., Palmyrene Inscription from the Tomb of Malkû, MUSJ 38 (1962), 101—119.
INGHOLT, H., Two Unpublished Tombs from the Southwest Necropolis of Palmyra, Syria, in: D. K. KOUYMJIAN (ed.), Near Eastern Numismatics, Iconography, Epigraphy and History. Studies in Honor of George C. Miles (Beirut 1974), 37—54.
INVERNIZZI, A., The Excavations at Tell 'Umayr, Mesopotamia 1 (1966), 39—62.
INVERNIZZI, A., The Excavations at Tell 'Umar, Mesopotamia 3/4 (1968/69), 11—27.
INVERNIZZI, A., A Relief in the Style of the Gandhara School from Choche, Mesopotamia 3/4 (1968/69), 145—158.
IPPEL, A., Statuetten aus Pompeji, AA (1939), 350—376.
IRVINE, A. K., Some Notes on Old South Arabian Monetary Terminology, JRAS (1964), 18—36.

Irvine, A. K., On the Identity of Habashat in the South Arabian Inscriptions, JSmSt 10 (1965), 178—196.

Islam, A., European Description of Burma from the Earliest Times to A. D. 1600, JASBang 17.3 (1972), 65—92.

Israeli, Y., Sidonian Mold-Blown Glass Vessels in the Museum Haaretz, JGS 6 (1964), 34—41.

Itina, M. A., Raskopki mogil'nika tazabag'iabskoi kul'tury Kokcha 3, in: Materialy Khorezmskoi ekspeditsii, vol. 5 (Moscow 1961), 3—96.

Its, R. F., O nadpisi na kitaiskom zerkale iz Tuvy, SE (1958) 4. 35—37.

Iusupov, K., Kurgannye pamiatniki po Veregam Uzboia, IANTSSR (1973) 4. 72—79.

Ivanov, T., T'rgovski Vr'zki na Sirmium s Trakiia po Vreme na Detsenaliiata na Imperator Litsinii, IAI 33 (1972), 225—237 (Ger. rés.).

Jack-Hinton, C., On the Archaeological Field Reconnaissances in Coastal Pahang (relative to Borneo), SMJ 12 (1965), 128—132.

Jacques, C., Notes sur La Stèle de Vó-canh, BEFEO 55 (1969), 117—124.

Jähne, A., Die 'Syrische Frage', Seleukia in Pierien und die Ptolemäer, Klio N.F. 56 (1974), 501—519.

Jaffey, A. J. E., A Reappraisal of the History of the Rhodesian Iron Age up to the Fifteenth Century, JAH 7.2 (1966), 189—195.

Jagchid, S., and Bawden, C. R., Some Notes on the Horse Policy of the Yüan Dynasty, CAJ 11 (1965), 246—268.

Jain, B., Inventory of the Hoards and Finds of Coins and Seals from Madya Pradesh, NSI, NNM 5 (1957), 19—24.

Jain, B., Kushāṇa Coins from Shahdol District, JNSI 281 (1966), 1—5.

Jal, P., Nature et signification politique de l'œuvre de Florus, REL 43 (1965), 358—383.

James, W. E., On the Location of Gerra, in: F. Altheim and R. Stiehl, Die Araber in der Alten Welt, 5.2 (Berlin 1969), 36—57.

Jameson, S., Chronology of the Campaigns of Aelius Gallus and C. Petronius, JRS 58 (1968), 71—84.

Jamme, A., Pièces épigraphiques de Ḥeid Bin 'Aqîl, la nécropole de Timna' (Hağr Koḥlân), BdM 30 (Louvain 1952).

Jamme, A., A New Chronology of the Qatabanian Kingdom, BASOR 120 (Dec. 1950), 26—27.

Jamme, A., Inscriptions de al-'Amâyid à Mâreb, Le Muséon 68 (1955), 313—324.

Jamme, A., On a Drastic Current Reduction of South-Arabian Chronology, BASOR 145 (Feb. 1957), 25—30.

Jamme, A., Sabaean Inscriptions from Maḥram Bilqîs (Mârib), Publications of the American Foundation for the Study of Man vol. 3 (Baltimore 1962).

Jamme, A., The Al-'Uqlah Texts (Documentation Sud Arabe III), (Washington 1963).

Jamme, A., The So-called Thamudic Divine Name *wt* = *wtn*, BiOr 24 (1967), 279—288.

Jamme, A., Liḥyanite, Sabaean and Thamudic Inscriptions from Western Saudi Arabia, RSO 45.1/2 (1970), 91—113.

Janon, M., Cultores dei Ierhobolis iuniores, BAA 2 (1966/67), 219—230.

Janse, O. R. T., Archaeological Research in Indo-China, 2 vols., Harvard-Yenching Institute Monographs 7 and 10 (Cambridge, Mass. 1947—1951).

Janse, O. R. T., Quelques reflexions à propos d'un bol de type megaréen trouvé au Viet Nam, Artibus Asiae 25 (1962), 280—292.

Jarry, J., Le Manichéisme en Egypte Byzantine, BIFAO 66 (1968), 121—137.

Jashemski, W. F., The Discovery of a Large Vineyard at Pompeii: University of Maryland Excavations, 1970, AJA 77.1 (1973), 27—41.

Jaussen, J. A., Inscriptions Himyarites (Collection de Kaiky Muncherjee, Aden), RB 35 (1926), 548—582.

Jayaswal, K. P., Problems of Saka-Satavahana History, JBORS 16 (1930), 227—316.

Jeffery, L. H., The Local Scripts of Archaic Greece. A Study of the Origin of the Greek Alphabet and its Development from the Eighth to Fifth Centuries B.C., Oxford Monographs on Classical Archaeology (Oxford 1961).

Jenkins, G. K., Indo-Scythic Mints, JNSI 17.2 (1955), 1—26.

JENKINS, G. K., Azes and Taxila, in: Actes, Congrès International de Numismatique, July 6—11, 1953, Paris (Paris 1957), 2. 123—130.

JENKINS, G. K., The Apollodotus Question: Another View, JNSI 21.1 (1959), 20—33.

JENYNS, S., Chinese Archaic Jades in the British Museum (London 1951).

JEPPESEN, K., Et Kongebud til Ikaros, KUML (1960), 153—198 (Eng. rés.).

JEREMIAS, J., Jerusalem in the Time of Jesus (Philadelphia 1969).

JETTMAR, K., The Karasuk Culture and its South-Eastern Affinities, BMFEA 22 (1950), 83—126.

JETTMAR, K., The Altai Before the Turks, BMFEA 23 (1951), 135—223.

JETTMAR, K., Hunnen und Hsiung-nu — ein archäologisches Problem, Archiv f. Völkerkunde 6/7 (1951/1952), 166—176.

JETTMAR, K., Archäologische Spuren von Indogermanen in Zentralasien, Paideuma 5.4 (1952), 236—254.

JETTMAR, K., Zum Heiligtum von Surkh-Kotal, CAJ 5.3 (1960), 198—205.

JETTMAR, K., Die frühen Steppenvölker: Der eurasiatische Tierstil, Entstehung und sozialer Hintergrund (Baden-Baden 1964).

JETTMAR, K., Mittelasien und Sibirien in vortürkischer Zeit, Handbuch der Orientalistik, Abt. 5, Bd. 5, Abs. 5 (Leiden 1966).

JETTMAR, K., Mittelasiatische Bestattungsrituale und Tierstil, Iranica Antiqua 6 (1966), 6—24.

JETTMAR, K., Archaeology in Soviet Central Asia, BiOr 25. 3/4 (1968), 156—157.

JETTMAR, K., Cross-dating in Central Asia: The Chronology of the Karasak and the Scythian Periods, CAJ 14.4 (1970), 253—276.

JOEL, J., Beiträge zur Geographie des Talmud, MGWJ 16 (1867), 330—343; 375—387.

JOHANNESON, R., Ptolemy Philadelphus and Scientific Agriculture, CPh 18 (1923), 156—161.

JOHN, W., Zum armenischen Feldzug des Gaius Caesar im Jahre 2 n. Chr., Hermes 78 (1943), 108—109.

JOHNE, K.-P., Zu den Siegernamen der Kaiser Marc Aurel und Commodus, Klio 48 (1967), 177—182.

JOHNSON, A. C., Roman Egypt, ESAR 2 (Baltimore 1936).

JOHNSON, A. C., Lucius Domitius Domitianus Augustus, CPh 45.1 (1950), 13—21.

JOHNSTON, F. H., Two Notes on Ptolemy's Geography of India, JRAS (1941), 208—222.

JOIRE, J., Découvertes archéologiques dans la région de Rao (Bas-Sénégal), BIFAN B ser 17. 3/4 (1955), 249—333.

JONCHERAY, J.-P., News: Le Dramont and Giens, IJNA 5.3 (1976), 259—260.

JONES, A. H. M., The Later Roman Empire 284—602, A Social, Economic and Administrative Survey (Oxford 1964).

JONES, A. H. M., The Aerarium and the Fiscus, JRS 40 (1950), 22—29.

JONES, A. H. M., The Cloth Industry under the Roman Empire, EHR 2 ser. 13.2 (1960), 183—192.

JONES, A. H. M., Procurators and Prefects in the Early Principate, in: ID., Studies in Roman Government and Law (Oxford 1968), 117—125.

JONES, A. H. M., The Cities of the Eastern Roman Provinces^2 (Oxford 1971).

JONES, A. H. M., MARTINDALE, J. R., and MORRIS, J., The Prosopography of the Later Roman Empire, vol. 1: A. D. 260—395 (Cambridge 1971).

JONES, A. H. M., The Economic Life of the Towns of the Roman Empire, in: Receuils de la Société Jean Bodin 7 (1955), 161—192 = A. H. M. JONES (P. A. BRUNT ed.), The Roman Economy (Oxford 1974), 35—60.

JONES, A. H. M., Numismatics and History, in: ID. (P. A. BRUNT ed.), The Roman Economy (Oxford 1974), 61—80.

JONES, A. H. M., Ancient Empires and the Economy, Rome, in: ID. (P. A. BRUNT ed.), The Roman Economy (Oxford 1974), 114—139.

JONES, A. M., The Influence of Indonesia: the Musicological Evidence Reconsidered, Azania 4 (1969), 131—145.

JONES, A. M., Africa and the Indonesians^2 (Leiden 1971).

JONES, C. P., The Date of Dio of Prusa's Alexandrian Oration, Historia 22.2 (1973), 302—309.

JONES, G. D. B., and LEWIS, P. R., The Dolaucothi Gold-Mines, BJ 171 (1971), 288—300.

JONGKEES, J. H., Athenian Coin Dies from Egypt, NC 6 ser. 10 (1950), 298—301.

JONKERS, F. J., 'Wechsel' und 'Kreditbriefe' im Römischen Altertum, Mnemosyne 3 ser. 9.3 (1941), 182—186.

JOSEPH, T. K., St. Thomas' Crosses and St. Thomas' Tradition, IHQ 8 (1932), 785—789.

JOSEPH, T. K., 'India' a Continuation of Egypt and Ethiopia, JIH 26 (1948), 201—207.

JOUGUET, P., Inscriptions grecques d'Égypte, BCH 20 (1896), 167—196.

JOUGUET, P., La vie municipal dans l'Égypte romaine, BEFAR 104 (Paris 1911).

JOUGUET, P., Dédicace grecque de Médamond, BIFAO 31 (1931), 1—29.

JOUGUET, P., Vespasien acclamé dans l'hippodrome d'Alexandrie (P. Fouad Ier, 8), in: Mélanges de philologie et littérature et d'histoire anciennes offerts à Alfred Ernout (Paris 1940), 201—210.

JOUVEAU-DUBREUTI, G., Les ruines romaines de Pondichéry, BEFEO 40 (1941), 448—450.

JOYCE, T. A., On the Physical Anthropology of the Oases of Khotan and Keriya, JRAI 33 (1903), 305—324.

JUCKER, H., Die frühesten Reproduktionen des Kanonischen Sarapistyps auf Alexandrinischen Münzen, SM 19 (1969), 78—94.

JUNGCK, C., Die neuen Funde zum Preisedikt Diokletians, SM 26 (1976), 25—32.

JUNGFLEISCH, M., and NASTER, P., Le trésor de Tell el Maskhouta. Note complémentaire, RBN 95 (1949), 124—125.

JUNGFLEISCH, M., and SCHWARTZ, J., Les moules de monnaies impériales romaines, Essai bibliographique, ASAE Supplement 19 (Cairo 1952).

JUNGWIRTH, H., Der Münzschatzfund von Erla, NZ 82 (1967), 26—48.

KABANOV, S. K., Arkheologicheskie nablydeniia na stroitel'stve Iski-Angarskogo kanala, IMKUz 1 (1959), 154—175.

KABANOV, S. K., Ruiny poseleniia III—Vvv. v doline Kashkadari, IMKUz 6 (1965), 71—86.

KÁDÁR, Z., Monuments palmyréniens au Musée des Beaux-Arts de Budapest, AAntHung 3 (1955), 105—121.

KÁDÁR, Z., Serica. Le rôle de la soie dans la vie économique et sociale de l'Empire romain, d'après les documents écrits, ACD 3 (1967), 89—98.

KADMAN, L., Temple Dues and Currency in Ancient Palestine in the Light of Recent Discovered Coin-Hoards, in: Congresso Internazionale di Numismatica, Roma, 11—16 Settembre 1961, vol. 2 (Rome 1965), 69—76.

KAHLE, P., Chinese Porcelain in the Lands of Islam, TOCS 13 (1940/41), 27—46.

KAHRSTEDT, U., Über Gesandtschaften aus fremden Ländern an römische Kaiser, in: L. FRIEDLAENDER, Darstellungen aus der Sittengeschichte Roms, vol. 4, 9—10th eds. (Leipzig 1921), 7—10.

KAHRSTEDT, U., Artabanos III. und seine Erben, Dissertationes Bernenses 1 ser. 2 (Bern 1950).

KAISER, W., GROSSMANN, P., HAENY, G., and JARITZ, H., Stadt und Tempel von Elephantine, Erster Grabungsbericht, MDAI(K) 26 (1970), 87—139.

KAISER, W., GROSSMANN, P., HAENY, G., JARITZ, H., STADELMANN, R., and ZAUZICH, K.-TH., Stadt und Tempel von Elephantine. Zweiter Grabungsbericht, MDAI(K) 27.2 (1971), 181—201.

KAJANTO, I., The Latin Cognomina, Societas Scientiarum Fennica. Commentationes Humanarum Litterarum 36.2 (Helsinki 1965).

KALA, S. C., A Rude Imitation Coin of Heliokles, JNSI 9 (1947), 26—27.

KALB, P., Rote Glattstreifen-Keramik in Afghanistan, AMI N.F. 6 (1973), 265—271.

KALBFLEISCH, K., Edelmetallbeschaffung, APF 15 (1953), 104—105.

KALTENMARK, M., Lao Tzu and Taoism, translated by R. GREAVES (Stanford 1969).

KAMEL, I., A Bronze Hoard of Athribis, ASAE 60 (1968), 65—71.

KAMMERER, A., Les monnaies abyssines de la Collection Muncharjee d'Aden, RN 4 ser. 29 (1926), 41—51.

KANO, N., Shokkankoku zenshi, Tōhōgakuō 16 (1958), 19—34; cf. RBS (1958), no. 118.

Kao, W. T., A Primary Chinese Record Relating to Ho-Lo-Tan and Miscellaneous Notes on Srivijaya and Fo-Che, JMBRAS 29.1 (1956), 163—178.

Kapanadze, D. G., Monetnye nakhodki Mtskhetskoi ekspeditsii (1937—1948 i 1951 gg.), VDI (1955), 1. 160—173.

Kapanadze, D. G., O prodolzhitel'nosti obrashcheniia denariev Avgusta i drakhm Gotarza v drevnei Iberii, SA (1962), 4. 59—65.

Kapanadze, D. G., Numizmaticheskie nakhodki Pitsundskoi arkheologicheskoi ekspeditsii za 1953—1959 gg., VDI (1966), 4. 173—179.

Kapanadze, D. G., Novye nakhodki podrazhanii rimskim aureusam v Gruzii, VDI (1970), 4. 81—92.

Kaplun, V. I., Staro-Romanovskii klad rimskikh denariev I—II vv. n. e., NE 10 (1972), 108—126.

Kapossy, B., Mittelasiatische Münzen im Bernischen Historischen Museum, JBHMB 47/48 (1967/68), 61—94.

Karlbeck, O., A Honan Grave Find, BMFEA 2 (1930), 201—204.

Karlgren, B., Word Families in Chinese, BMFEA 5 (1933), 9—120.

Karlgren, B., Early Chinese Mirror Inscriptions, BMFEA 6 (1934), 9—79.

Karlgren, B., On the Date of the Piao Bells, BMFEA 6 (1934), 137—149.

Karlgren, B., New Studies on Chinese Bronzes, Ordos and Huai, BMFEA 9 (1937), 97—113.

Karlgren, B., Han and Huai, BMFEA 13 (1941), 1—125.

Karlgren, B., Some Weapons and Tools of the Yin-Dynasty, BMFEA 17 (1945), 101—144.

Karlgren, B., Legends and Cults in Ancient China, BMFEA 18 (1946), 199—365.

Karlgren, B., Bronzes in the Hellstrom Collection, BMFEA 20 (1948), 1—38.

Karwiese, S., Münzdatierung 'aus dem Beutel', JÖAI 50 (1972/73), 281—295.

Kashiwa, O., Yavoi-Kultur. Eine prähistorische Kultur der japanischen Inseln, in: Jubiläumsband, Deutsche Gesellschaft für Natur und Völkerkunde Ostasiens I (Tokyo 1933), 127—134.

Kastal'skii, B. N., Neizdannaia greko-baktriiskaia tetradrakhma-medal' Antimakha I, bitaia v chest' Evtidema I, VDI (1940), 3/4. 339—347.

Kato, S., On the *Hang* or the Associations of Merchants in China, MTB 8 (1936), 45—83.

Katsumi, M., The Beginning of Overseas Advance of Japanese Merchant Ships, Acta Asiatica 23 (1972), 1—24.

Katz, K., A South Arabian Carving of Alabaster, JWAG 17 (1954), 77—86.

Katznelson, I. S., Rabovladenie v Koushe, VDI (1969), 2. 74—92.

Katznelson, I. S., The Study of the History of the Napatan and Meroitic Kingdom: Present State and Tasks, Meroitica 1 (1973), 67—96.

Kazamanova, L. N., and Kropotkin, V. V., Podrazhaniia rimskim zolotym monetam II—III vv. n. e., VDI (1964), 1. 140—148.

Keall, E. J., Parthian Nippur and Vologases' Southern Strategy: A Hypothesis, JAOS 95.4 (1975), 620—632.

Keenan, J. G., and Shelton, J. C., Four Papyri from Second-Century Tebtunis, ZPE 7.2 (1971), 173—183.

Kees, H., Beiträge zur altägyptischen Provinzialverwaltung und der Geschichte des Feudalismus, GöttNach (1933), 579—598.

Kees, H., Ein Handelsplatz des MR im Nordostdelta, MDAI(K) 18 (1962), 1—13.

Kellner, H.-J., and Specht, W., Feingehalt und Gewicht des römischen Denars, JNG 11 (1961), 43—51.

Kelso, J. L., A Reply to Yadin's Article on the Finding of the Bethel Seal, BASOR 199 (Oct. 1970), 65.

Kempe, T. K., and Reusch, W., Frühchristliche Zeugnisse im Einzugsgebiet von Rhein und Mosel (Trier 1965).

Kendrick, A. F., Catalogue of Textiles from Burying-Grounds in Egypt, vol. I: Graeco-Roman Period (London 1920).

Kendrick, A. F., Catalogue of Textiles from Burying-Grounds in Egypt, vol. 3: Coptic Period (London 1922).

Kennedy, J., The Secret of Kanishka, JRAS (1912), 665—688; 981—1091.

Kennedy, J., Kanishka's Greek, JRAS (1913), 121—124.

Kennedy, J., Heraus ὁ τύραννος, JRAS (1913), 124—127.

Kennedy, J., A Passage in the Periplus, JRAS (1913), 127—130.

Kennedy, J., Sidelights on Kanishka, JRAS (1913), 369—378.

Kennedy, J., Fresh Lights on Kanishka, JRAS (1913), 664—669.

Kennedy, J., The Date of Kanishka, JRAS (1913), 920—939.

Kennedy, J., Eastern Kings Contemporary with the Periplus, JRAS (1918), 1/2. 106—114.

Kenner, F., Zu den Goldfunden von Karnak und Abukir, Monatsblatt der Numismatischen Gesellschaft in Wien, 6.8 (Aug. 1903), 100.

Kent, R. G., Old Persian Texts, JNES 1 (1942), 415—423.

Kent, R. K., Early Kingdoms in Madagascar 1500—1700 (New York 1970).

Keppie, L. J. F., The Legionary Garrison of Judaea under Hadrian, Latomus 32.4 (1973), 860—864.

Keramopoullou, A. D., 'Επιγραφαὶ Θεσπιῶν, AD 14 (1931/32), 12—40.

Kertész, I., Das spätrepublikanische Rom (Zu E. Badian, Roman Imperialism in the Late Republic), Klio 56 (1974), 543—550.

Khachatrian, Z. H., Steklodelie v drevnei Armenii (II—I veka do nashei ery), IFZh (1975), 1. 248—258.

Khan, A. W., A Monograph on Yēlēśwaram Excavations, Andhra Pradesh Government Archaeological Series no. 14 (Hyderabad 1963).

Khan, M. I., Ghandhara Metal Statuettes from Taxila, MJP 21 (1969), 20—24.

Khare, M. D., The Bearing of Excavations on the Chronology of the Local Coins of Central India, in: A. K. Narain (ed.), Seminar Papers on the Local Coins of Northern India ca. 300 B.C. to 300 A.D., Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 2 (Varanasi 1968), 157—160.

Kharitonov, D. E., Nakhodka vostochnykh monet V—VIII vv. v Prikam'e, in: Na Zapadnom Urale (1964), 4. 170—176.

Khazanov, A. M., Katafraktarii i ikh rol' v istorii voennogo iskusstva, VDI (1968), 1. 180—191.

Khazanov, A. M., O kharaktere rabovladeniia u skifov, VDI (1972), 1. 159—170.

Khlobystina, M. D., Nekotorye o sobennosti andronovskoi kul'tury Minusinskikh Stepei, SA (1973), 3. 50—62.

Kiechle, F., Die 'Taktik' des Flavius Arrianus, BRGK 45 (1964), 87—129.

Kielhorn, F., Junāgadh Rock Inscription of Rudradāman, Year 72, EpInd 8 (1905/06), 36—49.

Kienast, O., Alexander und der Ganges, Historia 14 (1965), 180—188.

Kienast, D., Untersuchungen zu den Kriegsflotten der römischen Kaiserzeit, Antiquitas R. 1, H. 13 (Bonn 1966).

Kind, H. D., Antike Kupfergewinnung zwischen Rotem und Totem Meer, ZDPV 81.1 (1965), 56—73.

Kindler, A., The Greco-Phoenician Coins Struck in Palestine in the Time of the Persian Empire, INJ 1 (1963), 2—6.

Kingsmill, T. W., Dr. F. Hirth and the Hiung-nu, JRASNCB 34 (1901), 137—141.

Kirch, P. V., The Chronology of Early Hawaiian Settlement, APAO 9.2 (1974), 110—119.

Kirk, W., The N.E. Monsoon and Some Aspects of African History, JAH 3.2 (1962), 263—267.

Kirk, W., The Role of India in the Diffusion of Early Cultures, GJ 141.1 (1975), 19—34.

Kirkman, J. S., The Arab City of Gedi. Excavations at the Great Mosque (Oxford 1954).

Kirkman, J. S., Excavations at Ras Mkumbuu on the Island of Pemba, TNR 53 (1959), 161—175.

Kirkman, J. S., The Kenya Littoral, CA 7.3 (1966), 347—348.

Kirwan, L. P., Studies in the Later History of Nubia, LAAA 24 (1937), 69—105.

Kirwan, L. P., The Oxford University Excavations at Firḳa (Oxford 1939).

Kirwan, L. P., The Ballaña Civilization: A Note on the Historical Geography of Lower Nubia, BSRGE 25 (1953), 103—110.

Kirwan, L. P., Tanqasi and the Noba, Kush 5 (1957), 37—41.

Kirwan, L. P., Rome beyond the Southern Egyptian Frontier, GJ 123.1 (1957), 13—19.

Kirwan, L. P., Comments on the Origins and History of the Nobatae of Procopius, Kush 6 (1958), 69—73.

Kirwan, L. P., The Decline and Fall of Meroe, Kush 8 (1960), 163—173.

Kirwan, L. P., Prelude to Nubian Christianity, Mélanges offerts à Kazimierz Michałowski (Warsaw 1966), 121—128.

Kirwan, L. P., The Christian Topography and the Kingdom of Axum, GJ 138.2 (1972), 166—177.

Kirwan, L. P., An Ethiopian-Sudanese Frontier Zone in Ancient History, GJ 138.4 (1972), 459—465.

Kiselev, S. V., Iz Rabot Altaiskoi Ekspeditsii Gosudarstvennogo Istoricheskogo Muzeia v 1934 g., SE (1935), 1. 97—106.

Kiselev, S. V., Nakhodka antichnykh i vizantiiskikh monet na Altae, VDI (1940), 3/4. 360—363.

Kiselev, S. V., Drevniaia Istoriia Iuzhnoi Sibiri^2 (Moscow 1951).

Kiss, Z., Les fouilles polonaises en Égypte et au Sudan en 1971, AfrBull 17 (1972), 198—202.

Kiss, Z., Les fouilles polonaises en Égypte et au Soudan en 1972, AfrBull 19 (1973), 130—136.

Kitchen, K. A., Punt and How to Get There, Orientalia 40.2 (1971), 184—202.

Klapwijk, M., An Early Iron Age Site near Tzaneen, N. E. Transvaal, SAJS 69 (1973), 324.

Klein, L. S., A Brief Validation of the Migration Hypothesis with Respect to the Origin of the Catacomb Culture, Vestnik Leningradskogo Universiteta, Seriia Istorii, Iazyka i Literatury (1962) 2 = SAA 1.4 (1963), 27—36.

Kleiner, F. S., The Dated Cistophori of Ephesos, ANSMN 18 (1972), 17—32.

Kleiss, W., Die sasanidischen Kapitelle aus Venderni bei Kamyaran nördlich Kermanshah, AMI N.F. 1 (1968), 143—147.

Kleiss, W., Bericht über zwei Erkundungsfahrten in Nordwest-Iran, AMI N.F. 2 (1969), 7—119.

Kleiss, W., Bericht über Erkundungsfahrten in Nordwest-Iran im Jahre 1969, AMI N.F. 3 (1970), 107—132.

Kleiss, W., Zur Topographie des 'Partherhanges' in Bisutun, AMI N.F. 3 (1970), 133—168.

Kleiss, W., Bericht über Erkundungsfahrten in Iran im Jahre 1971, AMI N.F. 5 (1972), 35—242.

Kleiss, W., Erkundungsfahrten in Iran, 1972, AMI N.F. 6 (1973), 7—80.

Kleiss, W., Qal'eh Zohak in Azerbaidjan, AMI N.F. 6 (1973), 163—188.

Kleiss, W., Straßenstationen und Karawanserails in West-Iran, AMI N.F. 7 (1974), 231—250.

Kleiss, W., Die Festung Qaleh Seidj Dukkan bei Sarpol-i Zohab in West-Iran, AMI N.F. 7 (1974), 215—221.

Kleiss, W., Befestigungen und Straßenstationen aus vorislamischer und aus islamischer Zeit in West-Iran, AMI N.F. 8 (1975), 211—216.

Kleiss, W., Vorislamische Ruinen im nördlichen Zagros, AMI N.F. 8 (1975), 133—140.

Kleiss, W., Beobachtungen in der Umgebung von Sarpol-i Zohab, AMI N.F. 8 (1975), 123—132.

Klengel-Brandt, E., Drei parthische Fürstenbilder aus Assur, MIO 11.3 (1966), 339—347.

Kliashtornyi, S. G., and Livshits, V. A., Une inscription inédite Turque et Sogdienne: la stèle de Sevrey (Gobi Méridional), JA 259 (1971), 11—20.

Klotz, A., ΟΔΟΙΠΟΡΙΑ ΑΠΟ ΕΔΕΜ ΤΟΥ ΠΑΡΑΔΕΙΣΟΥ ΑΧΡΙ ΤΩΝ ΡΩΜΑΙΩΝ, RhM 65 (1910), 606—616.

Knauer, E. R., Bronzekelle mit beweglichem Griff, BerMus N.F. 19.2 (1969), 54—58.

Knipovich, T. N., K voprosu o torgovykh snosheniiakh grekov s oblast'iu r. Tanaisa v VII—V vekakh do n. e., IGAIMK 104 (1934), 90—100.

KNUDSTAD, J., A Preliminary Report on the 1966—67 Excavations at Nippur, Sumer 24.1/2 (1968), 95—106.

KOBER, A., Zur Frage fremder Einflüsse auf das rabbinische Recht, MGWJ 79 (1935), 384—388.

KÖBERT, R., Orientalische Bemerkungen zum Kölner Mani-Codex, ZPE 8.3 (1971), 243—247.

KOECHLIN, R., Les céramiques musulmanes de Suse du Musée du Louvre, MDP 19 (1928), 1—109.

KOENEN, L., Die Prophezeiungen des 'Töpfers', ZPE 2.3 (1968), 178—209.

KOENEN, L., Das Datum der Offenbarung und Geburt Manis, ZPE 8.3 (1971), 247—250.

KOENEN, L., Zur Herkunft des Kölner Mani-Codex, ZPE 11.3 (1973), 240—241.

KOENIGSWALD, G. H. R. VON, A Remarkable Megalith and Gold Ear-Ring from Java (with Borneo Affinities), SMJ 10 (1962), 372—375.

KOESTERMANN, E., Die Mission des Germanicus im Orient, Historia 7 (1958), 331—375.

KOFFMAHN, E., Eine jüdische Darlehensurkunde aus dem Jahre 54/55 n. Chr., ZSS 81 (1964), 293—303.

KOH, BYONGIK, Zur Werttheorie in der chinesischen Historiographie auf Grund des Shih-t'ang des Liu Chih-chi (661—721), OE 4 (1957), 5—51, 125—181.

KOKUBU, N., The Prehistoric Southern Islands and East China Sea Areas, AP 7 (1963), 224—242.

KOLBE, W., Beiträge zur syrischen und jüdischen Geschichte (Berlin 1926).

KOLLMANN, E. D., A Soldier's Joke or an Epitaph?, IEJ 22.2/3 (1972), 145—146.

KONIK, E., Politische Kontakte des spätrömischen Kaisertums mit der barbarischen Bevölkerung Schlesiens im Lichte der römischen Münzfunde, Klio 50 (1968), 257—260.

KONONOV, V. N., Tekhnologicheskaia kharakteristika tkanei iz mogil Il'movoi Padi, SA 8 (1946), 69—72.

KONOW, S., Goths in Ancient India, JRAS (1912), 379—385.

KONOW, S., The Ara Inscription of Kanishka II: The Year 41, EpInd 14.7 (1917), 130—143.

KONOW, S., The Name and Designations of the Ruler Mentioned in the Ara Inscription, JBBRAS 1 (1925), 1—12.

KONOW, S., Notes on Indo-Scythian Chronology, JIH 12 (1933), 1—46.

KONOW, S., Kharoshthi Inscription on a Begram Bas-relief, EpInd 22 (1933/34), 11—14.

KONOW, S., Charsadda Kharoṣṭhi Inscription of the Year 303, AcOr 20.2 (1947), 107—119.

KORNEMANN, E., Die historischen Nachrichten des Periplus maris Erythraei über Arabien: Ein Beitrag zur neronischen Orientpolitik, Janus 1 (1921) (= Festschr. zu C. F. Lehmann-Haupts 60. Geburtstage), 55—72.

KORTENBEUTEL, H., Der ägyptische Süd- und Osthandel in der Politik der Ptolemäer und römischer Kaiser (Inaug. Diss. Berlin 1931).

KOSAKU, HAMADA, The Tomb of the Painted Basket of Lo-lang, Detailed Report of Archaeological Research, vol. 1 (Seoul 1934).

KOSAMBI, D. D., Silver Punch-Marked Coins with Special Reference to the East Khandesh Hoard, JNSI 8.1 (1946), 63—65.

KOSAMBI, D. D., Notes on the Kandahar Edict of Aśoka, JESHO 2 (1959), 204—206.

KOSAMBI, D. D., The Beginning of the Iron Age in India, JESHO 6 (1963), 309—318.

KOSAMBI, D. D., Punch-marked Coins of the Amaravati Hoard, in: A. K. NARAIN and L. GOPAL (eds.), Seminar Papers on the Chronology of the Punch-marked Coins, Memoirs of Ancient Indian History, Culture and Archaeology no. 1 (Varanasi 1966), 51—53.

KOSHELENKO, G. A., Gorodskoi stroi polisov zapadnoi Parfii, VDI (1960), 4. 73—82.

KOSHELENKO, G. A., Vnutripoliticheskaia bor'ba v Parfii, VDI (1963), 3. 56—68.

KOSHELENKO, G. A., Parfianskaia fortifikatsiia, SA (1963), 2.57—73.

KOSHELENKO, G. A., Unikal'naia vaza iz Merva, VDI (1966), 1. 92—105.

KOSHELENKO, G., The Beginning of Buddhism in Margiana, AAntHung 14 (1966), 175—183.

KOSHELENKO, G. A., Nekotorye voprosy istorii rannei Parfii, VDI (1968), 1. 53—70.

KOZENKOVA, V. I., Nov'ie istochnik dlia izucheniia sviazei Vizantii i Srednei Azii, SA (1967), 1. 266—270.

KOZHOMBEROIEV, I., Novy'ie dannye o Kenkol'skom mogil'nike, KSIIMK 80 (1960), 70—75.

KRAAY, C. M., Hoards, Small Change and the Origin of Coinage, JHS 84 (1964), 76—91.

KRAAY, C. M., Notes on the Early Imperial Tetradrachms of Syria, RN 6 ser. 7 (1966), 58—68.

KRADER, L., Principles and Structures in the Organization of the Asiatic Steppe-Pastorialists, SWJA 11.2 (1955), 67—92.

KRAELING, C. H., The Jewish Community at Antioch, JBL 51 (1932), 130—160.

KRAELING, C. H. (ed.), Gerasa, City of the Decapolis (New Haven 1938).

KRAELING, C. H., The Excavations of Dura Europos. Final Report VIII.1: The Synagogue (New Haven 1956).

KRAEMER, C. J., and MILES, T. G., An Early Fourth-Century Hoard from Egypt, ANSMN 5 (1952), 65—88.

KRÄMER, K., Zum Freundschaftsvertrag zwischen Rom und Parthien unter Augustus, Klio 55 (1973), 247—248.

KRAFT, K., Das Enddatum des Legionslagers Haltern, BJ 155/156 (1955/56), 95—111.

KRAFT, K., GEBHART, H., KÜTHMANN, H., FRANKE, P. R., and CHRIST, K., Bemerkungen zur kritischen Neuaufnahme der Fundmünzen der römischen Zeit in Deutschland, JNG 1 (1956), 9—71.

KRAFT, K., Zum Legionslager Augsburg-Oberhausen, in: Aus Bayerns Frühzeit, Friedrich Wagner zum 75. Geburtstag, Schriften z. Bayer. Landesgesch. 62 (München 1962), 139—156.

KRALL, J., Beiträge zur Geschichte der Blemmyer und Nubier, DAWW 46.4 (1900), 1—23.

KRALL, J., Ein neuer nubischer König, WZKM 14 (1900), 233—242.

KRAMER, K., Römische Weinstuben in Sayala (Unternubien), DAWW 95 (Vienna 1961).

KRAMER, S. N., Dilmun: Quest for Paradise, Antiquity 37 (1963), 111—115.

KRAMERS, J. H., The Military Colonization of the Caucasus and Armenia under the Sassanids, BSOAS 8.2/3 (1936), 613—618.

KRAMERS, J. H., Peshāwar, ABIA 15 (1940/41), xvi—xxi.

KRAUS, T., and RÖDER, J., Mons Claudianus, Bericht über eine erste Erkundungsfahrt im März 1961, MDAI(K) 18 (1962), 80—120.

KRAUS, T., Alexandrinische Triaden der römischen Kaiserzeit, MDAI(K) 19 (1963), 97—105.

KRAUS, T., Rom und Meroë, MDAI(K) 25 (1969), 49—56.

KRAUS, T., Zu einer neugefundenen Inschrift am Mons Claudianus, Acta of the Fifth International Congress of Greek and Latin Epigraphy 1967 (Oxford 1971), 391—395.

KRAUS, T., RÖDER, J., and MÜLLER-WIENER, W., Mons Claudianus — Mons Porphyrites, MDAI(K) 22 (1967), 108—205.

KRAUSS, S., Talmudische Nachrichten über Arabien, ZDMG 70 (1916), 321—353.

KREBS, W., Die Kriegselefanten der Ptolemäer und Äthiopier, WZRostock 17.4 (1968), 427—447.

KREBS, W., Adulis — ein antiker Hafen am Roten Meer, Altertum 15.3 (1969), 162—168.

KREISSIG, H., Fragen der sozialökonomischen Basis im Hellenismus des Ostens, JWG (1971), 2. 119—128.

KREISSIG, H., Prologomena zu einer Wirtschaftsgeschichte des Seleukidenreiches, Klio 56 (1974), 521—527.

KRISHAN, Y., Was Gandhara Art a Product of Mahayana Buddhism?, JRAS (1964), 104—119.

KROPOTKIN, V. V., Klady rimskikh monet na territorii SSSR (Moscow 1961).

KROPOTKIN, V. V., Novye nakhodki vizantiiskikh monet na territorii SSSR, VV 26 (1965), 166—189.

KROPOTKIN, V. V., Klad rimskikh denariev, naidennyi v s. Podlesnovke (Sumskaia Oblast'), VDI (1965), 1. 136—139.

KROPOTKIN, V. V., K voprosu o razvitii tovarnogo proizvodstva i denezhnykh otnoshenii u plemen Cherniakhovskoi kul'tury v III—IV vv. n. e., in: Leninskie idei v izuchenii istorii pervobytnogo obshchestva, rabovladeniia i feodalizma (Moscow 1970), 146—160.

KROPOTKIN, V. V., Novye nakhodki sasanidskikh i kuficheskikh monet v Vostochnoi Evrope, NE 9 (1971), 26—97.

KROPOTKIN, V. V., K publikatsii klada rimskikh monet iz s. Staraia Romanovka, NE 10 (1972), 126—127.

KROPOTKIN, V. V., and PROKOFIEV, A. F., Voitovskii klad rimskikh monet I—II vv. Cherkasskaia oblast, VDI (1972), 3. 174—178.

KROUGLIKOVA, I., and MOUSTAMANDY, CH., Resultats préliminaires des travaux de l'Expedition archéologique Afghano-Sovietique en 1969, Afghanistan 23.1 (1970), 84—97.
KÜHNE, H., Bemerkungen zu einigen Glasreliefs des 2. Jahrtausends v. Chr. aus Syrien und Palästina, ZA 59 (1969), 299—318.
KÜTHMANN, C., Die Ostgrenze Ägyptens (Inaug. diss. Berlin, Leipzig 1911).
KUMEL, I., A Bronze Hoard at Athribis, ASAE 60 (1968), 67—71.
KUNDEREWICZ, C., Ad Papyrus Hibeh 198, JJP 15 (1965), 139—143.
KUNINA, N. Z., Kerchenskii klad serebrianykh rimskikh monet, AIB 2 (1962), 329—342.
KUNISZ, A., Chronologia napływv pieniądza rzymskiego na ziemic małopolski, Polskie towarzystwo archeologiczne (Warszawa/Krakau 1969).
KUNISZ, A., A Hoard of Roman Republican and Augustan Denarii from Polaniec, District of Staszów (a preliminary note), WN 13.1 (1969), 44 (Eng. rés.).
KUNKEL, W., Verwaltungsakten aus spätptolemäischer Zeit, APF 8 (1927), 169—199.
KURIHARA, TOMONOBU, Kinin 'Tenō no in' to 'Gishi' Fuyoden ni mieru 'Kaiō no in' to ni tsuite, Kodaigaku 8 (1959), 10—15; cf. RBS (1959), no. 385.
KURZ, O., Begram et l'occident gréco-romain, in: J. HACKIN (ed.), Nouvelles recherches archéologiques à Begram, MDAFA 11 (Paris 1954), 89—150.
KUSUMGAR, S., LAL, D., and SARNA, R. P., Tatu Institute Radiocarbon Date/List I, Radiocarbon 5 (1963), 273—282.
KUTSCH, E., Ein Stück eines römischen Meilensteines in *angara*, ZDPV 81 (1965), 132—137.
KUWABARA, J., P'u Shou-kêng, a Man of the Western Regions who was the Superintendent of the Trading Ships' Office in Ch'üan-chou towards the End of the Sung Dynasty, II., MTB 7 (1935), 1—104.
KUZ'MINA, E. E., Mogil'nik Zaman-Baba, SE (1958), 24—33.
KYBALOVA, L., Coptic Textiles (London/Prague 1967).
KYCHANOV, E. I., and LUBO-LESNICHENKO, E. I., Monetnoe obrashcheniie v Khara-Khoto, SNV 11 (1971), 49—54.
KYZLASOV, L. P., Tashtykskaia epokha v istorii Khakassko-Minusinskoi kotloviny (Moscow 1960).

LA BAUME, P., Römisches Glas des östlichen Mittelmeerraumes und des Rheinlands, Archäologisches Korrespondenzblatt 4 (1974), 367—370.
LABIB, S., Les marchands Kārimīs en Orient et sur l'Océan Indien, in: M. MOLLAT (ed.), Sociétés et compagnies de commerce en orient et dans l'Océan Indien, Actes du 8e colloque Intern. d'Histoire Maritime (Beyrouth 5—10 Sept. 1966), Bibliothèque générale de l'École Pratique des Hautes Études (Paris 1970), 6e ser., 209—214.
LACAU, P., Inscriptions latines du temple de Louxor, ASAE 34 (1934), 17—46.
LACOMBRADE, C., Sur l'auteur et la date des Éthiopiques, REG 83 (1970), 70—89.
LACROIX, L., La monnaie grecque et les problèmes de la circulation monétaire, BARB 5 ser. 55.5 (1969), 169—180.
LACROIX, M., Les étrangers à Délos pendant la période de l'indépendance, Mélanges Gustave Glotz, 2 (Paris 1932), 501—525.
LAFAURIE, J., Imitation d'un solidus de Phocas frappé par les Sassanides, BSFN 19.10 (Dec. 1964), 412—415.
LAFFRANQUE, M., Poseidonios, Eudoxe de Cyzique et la circumnavigation de l'Afrique, RPhilos 153 (1963), 199—222.
LAHIRI, A. N., Foreign Influence on Local Coins, in: A. K. NARAIN (ed.), Seminar Papers on the Local Coins of Northern India ca. 300 B.C. to 300 A.D., Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology, no. 2 (Varanasi 1968), 203—216.
LAHIRI, A. N., Early Indigenous Coins of Northern India, in: D. C. SIRCAR (ed.), Early Indian Indigenous Coins (Calcutta 1971), 48—77.
LAHIRI, A. N., Early Indigenous Coins of South India, in: D. C. SIRCAR (ed.), Early Indian Indigenous Coins (Calcutta 1971), 78—100.
LAHIRI, A. N., The Metrology of the Indo-Greek Silver Coins, Afghanistan 24.1 (1971), 64—65.

LAHIRI, A. N., Archaic Coins of Northern India, JNSI 35 (1973), 1—38.

LAHIRI, B., The Coinage of the Vemakis, JNSI 30 (1968), 61—67.

LAHIRI, B., Typological Study of the Local Coins of Northern India, in: A. K. NARAIN (ed.), Seminar Papers on the Local Coins of Northern India ca. 300 B.C. to 300 A.D., Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology, no. 2 (Varanasi 1968), 29—53.

LAHIRI, B., The Coin-Types of the Foreign Successors of the Great Kushans, JNSI 31 (1969), 122—133.

LAL, B. B., Sisupālgarh 1948: An Early Historical Fort in Eastern India, AI 5 (1949), 62—105.

LAL, B. B., Examination of Some Ancient Indian Glass Specimens, AI 8 (1952), 17—27.

LAL, B. B., Examination of Rods of Glass-Like Material from Arikamedu, AI 14 (1958), 139—143.

LAL, B. B., A Decade of Prehistoric and Protohistoric Archaeology in India, 1951—1960, AP 1 (1963), 144—159.

LALLEMAND, J., Le monnayage de Domitius Domitianus, RBN 97 (1951), 89—103.

LALLEMAND, J., Les préfets pendant la persécution de Dioclétien, AIPHOS 11 (1951), 185—194.

LALLEMAND, J., Lucius Domitius Domitianus, Aegyptus 33 (1953), 97—104.

LALLEMAND, J., Une source de l'Énéide: le Mahābhārata, Latomus 18 (1959), 262—282.

LALLEMAND, J., Monnaies des nomes du Cabinet des Médailles de Bruxelles, CE 38 (1963), 318—321.

LALLEMAND, J., Trésor de bronzes romains trouvé en Égypte, CENB 2.1 (1965), 2—4.

LALLEMAND, J., Trésor de monnaies romaines en bronze découvert en Égypte: Constant à Constance Galle, CE 41 (1966), 380—394.

LALLEMAND, J., Trésor de petits bronzes romains découvert en Égypte: Constance II—Constant à Arcadius—Honorius, CE 48 (1973), 157—178.

LALOUX, M., La circulation des monnaies d'Électrum de Cyzique, RBN 117 (1971), 31—69.

LAMB, A., Some Notes on the Distribution of Indianised Sites in Kedah, JSSS 15.1/2 (1959), 99—111.

LAMB, A., Report on the Excavation and Reconstruction of Chandi Bakit Batu Pahat, Central Kedah, FMJ n. s. (1960), 91—108.

LAMB, A., Miscellaneous Papers: Research at Pengkalan Bujang. A Preliminary Report, FMJ n. s. 6 (1961), 21—37.

LAMB, A., Miscellaneous Papers: Some Glass Beads from Kakao Island, Takuapa, South Thailand, FMJ n. s. 6 (1961), 48—55.

LAMB, A., Miscellaneous Papers. The Bases of Glass Vessels from Kedah and Takuapa Compared, FMJ n. s. 6 (1961), 56—63.

LAMB, A., Miscellaneous Papers: Kedah and Takuapa: Some Tentative Historical Conclusions, FMJ n. s. 6 (1961), 69—88.

LAMB, A., Takuapa: The Probable Site of a Pre-Malaccan Entrepôt in the Malay Peninsula, in: J. BASTIN and R. ROOLVINK (eds.), Malayan and Indonesian Studies, Essays presented to Sir Richard Winstedt on his eighty-fifth birthday (Oxford 1964), 76—86.

LAMB, A., A Visit to Siraf, an Ancient Port on the Persian Gulf, JMBRAS 37 (1964), 1—19.

LAMB, A., Notes on Beads from Johor Lama and Kota Tinggi, JMBRAS 37.1 (1964), 88—98.

LAMB, A., A Note on Glass Fragments from Pengkalan Bujang, Malaya, JGS 7 (1965), 35—40.

LAMB, A., A Note on Glass Beads from the Malay Peninsula, JGS 8 (1966), 80—94.

LAMBERG-KARLOVSKY, C. C., Tepe Yahyā, Iran 7 (1969), 184—186.

LAMBERG-KARLOVSKY, C. C., Trade Mechanisms in Indus-Mesopotamian Relations, JAOS 92 (1972), 222—229.

LAMBERG-KARLOVSKY, C. C., Excavations at Tepe Yahyā, Iran 1967—1969, Progress Report I, American School of Prehistoric Research Bulletin no. 27 and the Asia Institute of Pahlavi University Monograph no. 1 (Cambridge, Mass. 1970).

LAMBERG-KARLOVSKY, C. C., and TOSI, M., Shahr-i Sokhta and Tepe Yahyā: Tracks on the Earliest History of the Iranian Plateau, E&W n. s. 23.1/2 (1973), 21—53.

Lamberg-Karlovsky, C. C., Third Millenium Modes of Exchange and Modes of Production, in: J. A. Sabloff and C. C. Lamberg-Karlovsky (eds.), Ancient Civilization and Trade (Albuquerque 1975), 341—368.

Lambert, C., Egypto-Arabian, Phoenician and Other Coins of the Fourth Century B.C. Found in Palestine, QDAP 2.1 (1932), 1—10.

Lambert, E., Les changeurs et la monnaie en Palestine du I^{er} au II^{e} siècle de l'ère vulgaire, d'après les textes talmudiques, REJ 52 (1906), 24—42.

Lambert, M., Le destin d'Ur et les routes commerciales, RSO 39 (1964), 89—109.

Lambert, N., Les industries sur cuivre dans l'ouest Saharien, WAJA 1 (1971), 9—21.

Lambrechts, P., L'empereur Lucius Verus. Essai de réhabilitation, AC 3 (1934), 173—201.

Lamm, C. J., Les verres trouvés à Suse, Syria 12 (1931), 358—367.

Lammens, A., L'Arabie occidentale avant l'Hégire (Beyrouth 1928).

Lamster, J. C., Handelsreizen in Oost Indië voor 2000 jaar, TKNAG 45 (1928), 991—998.

Lan, Hsin-Wen, Finds from Kansu, in: New Archaeological Finds in China (Peking 1972), 30—33.

Lancaster, L., The Chinese Translation of the Aṣṭasāhasrikā-prajnāpāratnitā-sūtra Attributed to Chih Ch'ien, MS 28 (1969), 246—257.

Landau, Y. H., A Greek Inscription Found near Hefzibah, IEJ 16.1 (1966), 54—70.

Lane, A., and Serjeant, R. B., Pottery and Glass Fragments from the Aden Littoral with Historical Notes, JRAS (1948), 108—133.

Lane, F. C., Andrea Barbarigo, Merchant of Venice 1418—1449 (Baltimore 1944).

Lane, F. C., The Mediterranean Spice Trade: Further Evidence of its Revival in the Sixteenth Century, AHR 45 (1940), 581—590 = B. Pullan (ed.), Crisis and Change in the Venetian Economy (London 1968), 47—58.

Lane, F. C., Pepper Prices Before Da Gama, JEH 28.4 (1968), 590—597.

Langdon, S., Excavations at Kish and Barghuthiat 1933, Iraq 1.2 (1934), 113—136.

Langhammer, W., Die rechtliche und soziale Stellung der *magistratus municipales* und der *decuriones* (Wiesbaden 1973).

Lao Kan, Chü-yen Han chien, pt. 2: Transliterations and Commentaries (Li-shih yü-yen yen-chiu-so chuan-k'an, no. 40), Taipei (1960).

Lao Kan, Lun Han-tai Yü-men kuan ti ch'ien-hsi wen-t'i, CHHP 2.1 (1960), 40—52.

Larsen, C. E., The Mesopotamian Delta Region: A Reconsideration of Lees and Falcon, JAOS 95.1 (1975), 43—57.

Lassen, C., Indische Alterthumskunde, 5 vols. (Leipzig 1858—1874).

Lassère, J. M., Un Syrien et sa famille à El-Kantara, REA 67 (1965), 353—367.

Last, H., The Fiscus: A Note, JRS 34 (1944), 51—59.

Last, H., The Praefectus Aegypti and his Powers, JEA 40 (1954), 68—73.

Lattimore, O., Manchuria, Cradle of Conflict (New York 1932).

Lattimore, O., The Mongols of Manchuria (New York 1934, repr. 1969).

Lattimore, O., Inner Asian Frontiers of China (Boston 1951).

Lattimore, O., Origins of the Great Wall of China: A Frontier Concept in Theory and Practice, GR 27.4 (1931), 529—549 = Id., Studies in Frontier History, Collected Papers 1928—1958 (London 1962), 97—118.

Lattimore, O., The Geographical Factor in Mongol History, GJ 91.1 (1938), 1—20 = Id., Studies in Frontier History, Collected Papers 1928—1958 (Paris 1962), 241—258.

Latynin, B. A., Raboty v raione proektiruemoi elektrostantsii na reke Naryne v Fergane, IGAIMK 110 (1939), 120—157.

Latynin, B. A., Voprosy istorii irrigatsii drevnei Fergany, KSIIMK 64 (1956), 15—26.

Latynin, B. A., Nekotorye itogi raboty Ferganskoi ekspeditsii 1934 goda, AS 3 (1961), 109—170.

Laufer, B., Die Sage von den goldgrabenden Ameisen, TP 2 ser. 9 (1908), 429—452.

Laufer, B., The Name China, TP 2 ser. 13 (1912), 719—726.

Laufer, B., Arabic and Chinese Trade in Walrus and Narwhale Ivory, TP 2ser. 14 (1913), 315—367.

Laufer, B., Chinese Clay Figures, Field Museum of Natural History Publication 177, Anthropological series, vol. 13. 2 (Chicago 1914).

Laufer, B., The Language of the Yüe-chi or Indo-Scythians (Chicago 1917).

LAUFER, B., Sino-Iranica: Chinese Contributions to the History of Civilization in Ancient Iran, Field Museum of Natural History Publication 201, Anthropolical series, vol. 15.3 (Chicago 1919).

LAUFFER, S., Die Bergwerkssklaven von Laurion, AWLM (1951), 12. 1103—1211; (1956) 11. 885—1015.

LAUFFER, S., Das Wirtschaftsleben im Römischen Reich, in: H.-J. HEYDORN and K. RINGSHAUSEN (eds.), Jenseits von Resignation und Illusion. Beiträge anläßlich des 450jährigen Bestehens des Lessing-Gymnasiums, der alten Frankfurter Lateinschule von 1520 (Frankfurt a. Main 1971), 135—153.

LAUFFER, S., Diokletians Preisedikt (Berlin 1971).

LAUFFRAY, J., Deux campagnes de fouilles à Halabiye, CRAI (1946), 681—692.

LAUNEY, M., Recherches sur les armées hellénistiques, 2 vols. (Paris 1949—1950).

LAUR-BELART, R., Ein neuer spätrömischer Silberschatz, Gymnasium 71 (1964), 425—429.

LAWRENCE, A. W., The Dissemination of a Greek Drapery Pattern, in: G. E. Mylonas (ed.), Studies Presented to David Moore Robinson on his Seventieth Birthday, vol. 1 (St. Louis 1951), 532—536.

LECLANT, J., Les recherches archéologiques dans le domaine méroitique, Meroitica 1 (1973), 19—59.

LECLANT, J., Glass from the Meroitic Necropolis of Sedeinga (Sudanese Nubia), JGS 15 (1973), 52—68.

LE COQ, A. VON, Die buddhistische Spätantike in Mittelasien (Berlin 1922).

LE COQ, A. VON, Von Land und Leuten in Ostturkestan: Berichte und Abenteuer der 4. deutschen Turfanexpedition (Leipzig 1928).

LEEMANS, W. F., Foreign Trade in the Old Babylonian Period as Revealed by Texts from Southern Mesopotamia, Studia et Documenta ad Iura Orientis Antiqui Pertinentia 6 (Leiden 1960).

LEEMANS, W. F., The Trade Relations of Babylonia and the Question of Relations with Egypt in the Old Babylonian Period, JESHO 3 (1960), 21—37.

LEGGE, J., A Record of Buddhistic Kingdoms (Oxford 1886, repr. New York 1965).

LE GLAY, M., Récherches et découvertes épigraphiques dans l'Afrique romaine depuis 1962, Chiron 4 (1974), 629—646.

LEHMANN, M. R., Studies in the Murabba'at and Naḥal Ḥever Documents, RQ 4.1 (1963), 53—81.

LEHRER, G., A Phoenician Glass Bowl from Nimrud, JGS 16 (1974), 9—13.

LEIDER, E., Der Handel von Alexandreia, Diss. Hamburg 1934.

LEMAIRE, A., Un nouveau roi arabe de Qedar dans l'inscription de l'autel à encens de Lakish, RB 81.1 (1974), 63—72.

LENEL, O., and ZAHN, R., Diatreta, AA (1928), 563—569.

LENGER, M.-T., Quelques papyrus inédits de la Bibliothèque Bodléenne, CE 24 (1949), 109—121.

LENZEN, H. J., Architektur der Partherzeit in Mesopotamien, in: G. BRUNS (ed.), Festschrift für Carl Weickert (Berlin 1955), 121—136.

LEPAPE, A., Tiberius Iulius Alexander, BSRAA 29 (= n. s. 8.3) (1934), 331—341.

LEPPER, F. A., Trajan's Parthian War (London 1948).

LERICHE, P., Aï Khanoum. Un rempart hellénistique en Asie Centrale, RA n. s. (1974), 2. 231—270.

LE RIDER, G., Monnaies de Characène, Syria 36 (1959), 229—253.

LE RIDER, G., Monnaies grecques acquises par le Cabinet des Médailles, RN 6 ser. 2 (1959/60), 7—35.

LE RIDER, G., Suse sous les Séleucides et les Parthes. Les trouvailles monétaires et l'histoire de la ville, Mémoires de la Mission archéologique en Iran, vol. 38 (Paris 1965).

LE RIDER, G., Un trésor de petites monnaies de bronze trouvé à Ninive, Iranica Antiqua VII (1967), 4—20 (= Mélanges Ghirshman 2).

LE RIDER, G., Monnaies de Taxila et d'Arachosie; une nouvelle reine de Taxila, REG 80 (1967), 332—339.

LE RIDER, G., Monnaies trouvées à Mirgissa, RN 6 ser. 11 (1969), 28—35.

Le Rider, G., Les monnaies de bronze de Séleucie du Tigre à Suse sous les Séleucides et les Parthes et la navigation dans le Golfe Persique, in: M. Mollat (ed.): Sociétés et compagnies de commerce en Orient et dans l'Océan Indien, Actes du 8ᵉ Colloque intern. d'Histoire maritime (Beyrouth 5—10 Sept. 1966), Bibliothèque Générale de l'École Pratique des Hautes Études (Paris 1970), 6ᵉ sec., 121—127.

Le Rider, G., Tétradrachmes 'au lion' et imitations d'Athènes en Babylonie, SM 22 (1972), 1—7.

Le Roy Davidson, J., Begram Ivories and Indian Stones, Marg 24.3 (1971), 31—45.

Leslie, D. D., The Survival of the Chinese Jews, TP Monograph (Leiden 1972).

Lesquier, J., L'armée romaine d'Égypte d'Auguste à Dioclétien, MémIFAO 41 (Cairo 1918).

Letronne, J. A., Recueil des inscriptions grecques et latines de l'Égypte, vol. 1 (Paris 1842).

Lévêque, P., Une chronologie nouvelle des royaumes sud-arabes et du périple de la Mer Érythrée, REG 75 (1962), 231—235.

Lévêque, P., La date du Périple de la Mer Érythrée, REG 76 (1963), 428—429.

Lévêque, P., Nouvelles contestations sur le Périple de la Mer Érythrée, REG 79 (1966), 730—732.

Lévi, S., Notes sur les Indo-Scythes, III: Saint Thomas, Gondophares et Mazdeo, JA 9 ser. 9 (1897), 27—42.

Lévi, S., Le 'Tokharien B', langue de Kutscha, JA 10 ser. 11 (1913), 311—382.

Lévi, S., Les marchands de mer et leur rôle dans le bouddhisme primitif, BAFAO (1929), 19—39.

Lévi, S., Maṇimekhalā, a Divinity of the Sea, IHQ 6.4 (1930), 597—614.

Lévi, S., K'ouen-louen et Dvīpântara, BKI 88 (1931), 621—627.

Lévi, S., Alexander and Alexandria in Indian Literature, IHQ 12 (1936), 121—133.

Lévi, S., Kaniṣka et Sātavāhana, deux figures symboliques de l'Inde au premier siècle, JA 228 (1936), 61—121.

Levick, B., Roman Colonies in Southern Asia Minor (Oxford 1967).

Levison, M., Ward, R. G., and Webb, J. W., The Settlement of Polynesia: A Report on a Computer Simulation, APAO 7.3 (1972), 234—245.

Lewis, A., Maritime Skills in the Indian Ocean 1368—1500, JESHO 16 (1973), 238—264.

Lewis, D. M., The Chronology of the Athenian New Style Coinage, NC 7 ser. 2 (1962), 275—300.

Lewis, N., On Timber and Nile Shipping, TAPhA 91 (1960), 137—141.

Lewis, N., Four Cornell Papyri, RecPap 3 (1964), 25—35.

Lewis, N., 'Greco-Roman Egypt': Fact or Fiction?, in: D. H. Samuel (ed.), Proceedings of the Twelfth International Congress of Papyrology, ASP 7 (Toronto 1970), 3—14.

Lewis, N., Νοήματα Λέγοντος, BASP 8.1 (1971), 15—24; 9.1/2 (1972), 23—36.

Lewis, N., Notationes Legentis, BASP 11.2/4 (1974), 44—59.

Lewis, N., Papyrus in Classical Antiquity (Oxford 1974).

Lewis, N., P. Oxy. 2820: Whose Preparations?, GRBS 16.3 (1975), 295—303.

Lewis, W. A., The Theory of Economic Growth (London 1955).

Li, Chung, The Development of Iron and Steel Technology in Ancient China, KKHP (1975), 2. 1—22 (Eng. rés.).

Li, Fang-kuei, Notes on Tibetan Sog, CAJ 3 (1957/58), 139—142.

Li, Tcheng-kouang, and P'eng, Ts'ing-ye, Tch'ang-cha Cha-hou-k'iao yi-tai kou-mou fa-kiue pao-kao, KKHP (1957) 4, 33—67.

Liebenthal, W., Sanskrit Inscriptions from Yünnan I and the Dates of Foundation of the Main Pagodes in that Province, MS 12 (1947), 1—40.

Liebenthal, W., Sanskrit Inscriptions from Yünnan, SIS 3.1/2 (1947), 10—12.

Liebenthal, W., On the Sanskrit Equivalent of Fo-t'u teng, SIS 3.3/4 (1949), 127—130.

Liebenthal, W., Sanskrit Inscriptions from Yünnan II, SIS 5.1 (1955), 46—68.

Liebenthal, W., The Ancient Burma Road — a Legend?, JGIS 15 (1956), 1—17.

Lieberman, S., Contact between Rome and China (Diss. unpublished, Columbia 1953).

Liebmann-Frankfort, Th., Les étapes de l'intégration de la Cappadoce dans l'Empire Romain, in: J. Bingen, G. Cambier and G. Nachtergael (eds.), Le monde grec. Pensée, littérature, histoire, documents, Hommages à Claire Préaux (Bruxelles 1975), 416—425.

Liesegang, G., Archaeological Sites on the Bay of Sofala, Azania 7 (1972), 147—159.

Lifshitz, B., Sur la date du transfert de la *legio VI Ferrata* en Palestine, Latomus 19.1 (1960), 109—111.

Lifshitz, B., L'Hellénisation des Juifs de Palestine à propos des inscriptions de Besara (Beth-Shearim), RB 72.4 (1965), 520—538.

Lifshitz, B., Inscriptions de Sinaï et de Palestine, ZPE 7.2 (1971), 151—163.

Lindner, M., Petra und das Königreich der Nabatäer (Munich 1974).

Linehan, W., Traces of a Bronze Age Culture Associated with Iron Age Implements in the Regions of Klang and the Tembeling, Malaya, JMBRAS 24. 3 (1951), 1—60.

Ling, Shun-sheng, Formosan Sea-Going Raft and its Origin in Ancient China, BIEAS 1 (1956), 25—54.

Lingat, R., Encore *Ayāya Saṃbodhim* à propos d l'inscription Gréco-Araméenne d'Aśoka, JA 255 (1967), 195—198.

Linton, R., The Tree of Culture (New York 1955).

Lipinska, J., and Riad, H., Trial Pits at Kom el-Dikka in Alexandria, ASAE 59 (1966), 99—108.

Littauer, M. A., The Function of the Yoke Saddle in Ancient Harnessing, Antiquity 42 (1968), 27—31.

Littmann, E., Deux inscriptions religieuses de Palmyre, JA 9 ser. 18 (1901), 374—390.

Littmann, E., Zur Entzifferung der thamudenischen Inschriften, MVG 9.1 (Berlin 1904).

Littmann, E., Deutsche Aksum-Expedition, vol. 4: Sabäische, griechische und alt-abessinische Inschriften (Berlin 1913).

Littmann, E., Ṣafā-Inschriften, in: Mélanges Syriens offerts à Monsieur René Dussaud, vol. 2, BAH 32 (Paris 1939), 661—671.

Littmann, E., Äthiopische Inschriften, Miscellanea Academica Berolinensia 2.2 (Berlin 1950), 97—127.

Littmann, E., Nabatean Inscriptions from Egypt, I, Introduction and Classical Notes by D. Meredith, BSOAS 15 (1953), 1—28.

Littmann, E., Nabatean Inscriptions from Egypt, II, Introduction and Classical Notes by D. Meredith, BSOAS 16.2 (1954), 211—246.

Littmann, E. (Introduction by D. Meredith), An Old Ethiopic Inscription from the Berenice Road, JRAS (1954), 119—123.

Litvinskii, B. A., Izuchenie kurumov v severo-vostochnoi chasti Leninabadskoi oblasti v. 1957 g., TANTAdzhSSR 103 (1959), 109—129.

Litvinskii, B. A., Archaeological Discoveries on the Eastern Pamirs and the Problem of Contacts between Central Asia, China and India in Antiquity, XXV. International Congress of Orientalists. Papers Presented by the U.S.S.R. Delegation (Moscow 1960).

Litvinskii, B. A., Issledovanie mogil'nikov Isfarinskogo raiona v 1958 g., TIIANTadzhSSR 27 (1961), 59—80.

Litvinskii, B. A., Tadzhikistan i Indiia, in: Indiia v Drevnosti (Moscow 1964), 143—165.

Litvinskii, B. A., Zerkalo v verovaniiakh drevnikh Fergantsev, SE (1964), 3. 97—104.

Litvinskii, B. A., Drevnii sredneaziatskii gorod, in Drevnii Vostok, goroda i torgovlia (III—I tys. do n.e.), (Erevan 1973), 99—125.

Litvinskii, B. A., Rasprostranenie Buddizma v Srednei Azii, in: Proceedings of the International Conference of the History, Archaeology and Culture of Central Asia in the Kushan Period, vol. 2 (Moscow 1975), 191—198.

Liu, G. K. C., The Silkworm and Chinese Culture, Osiris 10 (1952), 129—193.

Liu, J. T. C., Reform in Sung China. Wang An-shih (1021—1086) and his New Policies, Harvard East Asian Series 3 (Cambridge, Mass. 1959).

Liu, Mau-tsat, Kutscha und seine Beziehungen zu China vom 2. Jh. v. bis zum 6. Jh. n. Chr., 2 vols. (Wiesbaden 1969).

Liversidge, J., Britain in the Roman Empire (London 1968).

Livshits, V. A., and Lukonin, V. G., Srodnepersidskie i sogdiiskie nadpisi na serebrianykh sosudakh, VDI (1964), 3. 155—176.

Livshits, V. A., Khorezmiiskii kalendar i ery drevnego Khorezma, PalSb 21 (1970), 161—169.

Lloyd, A. H., Hoarding of the Precious Metals in India, JNSI 23 (1961), 115—127.

Lo, Chia-luen, Chinese Sources for Indian History, IndAr 3 (1949), 81—87.

Lo, Jung-pang, Chinese Shipping and East-West Trade from the Tenth to the Fourteenth Century, in: M. Mollat (ed.), Sociétés et compagnies de commerce en Orient et dans l'Océan Indien, Actes du 8e Colloque intern. d'Histoire Maritime (Beyrouth 5—10 Sept. 1966), Bibliothèque générale de l'École Pratique des Haut Études (Paris 1970), 6e sec., 167—176.

Loane, H. J., Industry and Commerce of the City of Rome (50 B.C.—200 A.D.), Johns Hopkins Studies in Historical and Political Science 56. 2 (Baltimore 1938).

Loane, H. J., Vespasian's Spice Market and Tribute in Kind, CPh 39.1 (1944), 10—21.

Loehr, M., Ordos Daggers and Knives: New Material, Classification and Chronology, First part: Daggers, Artibus Asiae 12, 1/2 (1941), 23—83.

Loehr, M., Weapons and Tools from An-yang and Siberian Analogies, AJA 53 (1949), 126—144.

Löw-Beer, F., Zum Dekor der Han Lacke, WBKKGA 11 (1937), 65—72.

Loewe, M., Some Notes on Han-time Documents from Chüyen, TP 2 ser. 47 (1959), 294—322.

Loewe, M., Military Operations in the Han-Period, China Society Occasional Papers 12 (London 1961).

Loewe, M., Some Notes on Han-time Documents from Tun-Huang, TP 2 ser. 50 (1963), 150—189.

Loewe, M., Some Military Despatches of the Han Period, TP 2 ser. 51 (1964), 335—354.

Loewe, M., The Wooden and Bamboo Strips found at Mo-Chü-Tzu (Kansu), JRAS (1965), 13—26.

Loewe, M., Records of Han Administration, 2 vols. (Cambridge 1967).

Loewe, M., Review of Yü Ying-shih, Trade and Expansion in Han China (Berkeley/Los Angeles 1967), TP 2 ser. 54 (1968), 313—318.

Loewe, M., Chinese Relations with Central Asia, 260—290, BSOAS 32.1 (1969), 91—103.

Loewe, M., Records of Han Administration: Supplementary Notes, TP 2 ser. 56 (1970), 225—228.

Loewe, M., Spices and Silk: Aspects of World Trade in the First Seven Centuries of the Christian Era, JRAS (1971), 2.166—179.

Loewe, M., The Campaigns of Han Wu-ti, in: F. A. Kierman and J. K. Fairbank (eds.), Chinese Ways in Warfare (Cambridge, Mass. 1974), 67—122.

Loewenstein, S., The Origin of the Malayan Metal Age, JMBRAS 29.2 (1956), 5—78.

Loewy, F., Inschriften griechischer Bildhauer (Leipzig 1885).

Long, T., P. Hibeh. 154: Export of Wine, BASP 6.2 (1969), 41—43.

Longden, R. P., Notes on the Parthian Campaigns of Trajan, JRS 21 (1931), 1—35.

Longpérier, A. de, Monnaie des Homérites frappée à Raïdan (Arabie Méridionale), RN n.s. 13 (1868), 169—176.

Longpérier, A. de, Monnaie de Raïdan, RN n.s. 14 (1869), 267—268.

Loofs, H. E. E., and Watson, W., The Thai-British Archaeological Expedition: a Preliminary Report on the Work of the Second Season 1967, JSS 58.2 (1970), 67—78.

Lopez, R. S., Silk Industry in the Byzantine Empire, Speculum 20.1 (1945), 1—42.

Lopez, R. S., The Dollar of the Middle Ages, JEH 11.3 (1951), 204—234.

Lopez, R. S., China Silk in Europe in the Yuan Period, JAOS 72 (1952), 72—76.

Lopez, R. S., Moneta e monetieri nell'Italia barbarica, in: Settimane di studio del Centro italiano di studi sull'Alto Medioevo, 8: Moneta e scambi nell'Alto Medioevo (Spoleto 1961), 57—88.

Lordkipanidze, O. D., Italiiskie bronzovye izdeliia naidennye na territorii drevnei Gruzii, SA (1964), 1. 199—220.

Lordkipanidze, O., La Géorgie et le Monde Grec, BCH 98 (1974), 897—948.

Lorton, D., The Supposed Expedition of Ptolemy II to Persia, JEA 57 (1971), 160—164.

Loundine, A. G., Yada' 'il Ḏariḥ fils de Sumhu'alay, Makarrib de Saba', XXV. Congrès International des Orientalistes, Conférences présentées par la Délégation de l'URSS (Moscow 1960).

Loundine, A. G., Sotsial'no ekonomicheskie dannye Sabejskikh posviatitel'nykh nadpisej perioda Mukarribov, VDI (1962), 3. 96—120.

Loundine, A. G., and Ryckmans, J., Nouvelles données sur la chronologie des rois de Saba et du Raydān, Le Muséon 77 (1964), 407—427.

Loundine, A. G., Deux inscriptions Sabéennes de Mārib, Le Muséen 86. 1—2 (1973), 179—192.

Loundine, A. G., Sabeiskii chinovnik i diplomat III v.n.e., PalSb 25 (1974), 95—104.

Lowick, N. M., Trade Patterns on the Persian Gulf in the Light of Recent Coin Evidence, in: D. K. Kouymjian (ed.), Near Eastern Numismatics, Iconography, Epigraphy and History, Studies in Honor of George C. Miles (Beirut 1974), 319—333.

Lubo-Lesnichenko, E. I., Les soieries Chinoises de la période Han (II. s. av. n. ère—II. s. de l'ère nouv.) dans la collection de l'Ermitage, XXV. Congrès International des Orientalistes, Conférences présentées par la Délegation de l'URSS (Moscow 1960).

Lubo-Lesnichenko, E. I., Drevnie Kitaiskie Shelkovyc Tkhani v Vyshirki V v. do n.e.—III v. n. e., Sobranii Gosudarstvennovo Ermitazha (Leningrad 1961).

Lubo-Lesnichenko, E. I., Kitaiiokie cakovye izdeliia iz Noin-Uly, TGE 10 (1969), 267—277.

Lubo-Lesnichenko, E., Imported Mirrors in the Minusinsk Basin, Artibus Asiae 35 (1973), 25—61.

Lucas, A., Preservative Materials Used by the Ancient Egyptians in Embalming, Ministry of Finance, Egypt. Survey Department Paper 12 (Cairo 1911).

Lucas, A., Notes on Myrrh and Stacte, JEA 23 (1937), 27—33.

Lucas, A., Ancient Egyptian Materials and Industries^{4}, revised by J. R. Harris (London 1962).

Luce, G. H., Countries Neighbouring Burma, JBRS 14.2 (1924), 138—205.

Luce, G. H., The Ancient Pyu, JBRS 27.3 (1937), 239—253.

Luce, G. H., Economic Life of the Early Burman, JBRS 30.1 (1940), 283—335.

Luce, G. H., A Century of Progress in Burmese History and Archaeology, JBRS 32.1 (1948), 79—91.

Luce, G. H., Note on the Peoples of Burma in the 12th—13th Century A.D., JBRS 42.1 (1959), 52—74.

Luce, G. H., Sources of Early Burma History, in: C. D. Cowan and O. W. Wolters (eds.), Southeast Asia History and Historiography. Essays presented to D. G. E. Hall (Ithaca 1976), 31—42.

Lüders, H., A List of Brāhmī Inscriptions from the Earliest Times to about A.D. 400 (except those of Aśōka), EpInd, Appendix to vol. 10 (1910/1911).

Lüders, H., Epigraphische Beiträge, II. Die Inschrift von Ara, SPAW (1912), 2. 824—831.

Lüders, H., Textilien im alten Turkestan, APAW (Berlin/Leipzig 1936), no. 3.

Lüders, H., Zur Schrift und Sprache der Kharoṣṭhī-Dokumente, BSOS 8.2/3 (1936), 637—655.

Lüders, H., Zu und aus den Kharoṣṭhī-Urkunden, AcOr 18 (1939/1940), 15—49.

Lukonin, V. G., Persia II, Archaeologia Mundi (New York 1967).

Lukonin, V. G., Kushano-Sasanidskie monety, EV 18 (1967), 16—33.

Lukonin, V. G., Monnaie d'Ardachir I et l'art officiel Sassanide, Iranica Antiqua 8 (1968), 106—117.

Lukonin, B. G., Zavoevaniia sasanidov na Vostoke i problema kushanskoi absoliutnoi khronologii, VDI (1969), 2. 20—44.

Lukonin, V. G., Srednepersidskie nadpisi iz Kara-Tepe, in: Buddiiskie peshchery Kara-Tepe v Starom Termeze (Moscow 1969), 40—46.

Luschey, H., Ausgrabungen in Bisutun, AFIB 2.1 (1965), 19—41.

Luschey, H., Zur Datierung der Sasanidischen Kapitelle aus Bisutun und des Monuments von Taq-i Bostan, AMI N.F. 1 (1968), 129—142.

Luschey, H., Iran und der Westen von Kyros bis Khosrow, AMI N.F. 1 (1968), 15—31.

Lyons, E., Two Dvaravati Figurines, JSS 61.1 (1973), 193—201.

L'vova, Z. A., Stekliannue Busy Stapoi Ladogi, AS 12 (1970), 89—111.

MacAdam, M. F. L., The Temples of Kawa, I. The Inscriptions (London 1949).

MacAdam, M. F. L., The Temples of Kawa, II. History and Archaeology of the Site (London 1955).

MacAdam, M. F. L., Queen Nawidemak, AMAMB 23.2 (1966), 42—71.

MacDonald, G., The Dating-Value of Samian Ware: A Rejoinder, JRS 25 (1935), 187—200.

MacDowall, D. W., The Coinage of Ancient Nepal, JNSI 21.1 (1959), 39—53.

MacDowall, D. W., The Weight Standards of the Gold and Copper Coinages of the Kushana Dynasty from Vima Kadphises to Vasudeva, JNSI 22. 1/2 (1960), 63—74.

MacDowall, D. W., The Early Western Satraps and the Date of the Periplus, NC 7 ser. 4 (1964), 271—280.

MacDowall, D. W., The Dynasty of the Later Indo-Parthians, NC 7ser. 5 (1965), 137—148.

MacDowall, D. W., The Context of Jihonika the Satrap, Bhārati 10/11 (1966/1968), 201—209.

MacDowall, D. W., Soter Megas, the King of Kings, the Kushāna, JNSI 30 (1968), 28—48.

MacDowall, D. W., Numismatic Evidence for the Date of Kaniṣka, in: A. L. Basham (ed.), Papers on the Date of Kaniṣka (Leiden 1968), 134—149.

MacDowall, D. W., Review of P. L. Gupta, Roman Coins from Andhra Pradesh (Hyderabad 1965), NC 7ser. 10 (1970), 340—341.

MacDowall, D. W., and Wilson, N. G., The References to the Kuṣānas in the Periplus and Further Numismatic Evidence for its Date, NC 7 ser. 10 (1970), 221—240.

MacDowall, D. W., Implications for Kushan Chronology of the Numismatic Context of the Nameless King, in: Proc. of the International Conf. on the Hist., Arch. and Culture of Central Asia in the Kushan Period, Dushanbe Sept. 27—Oct. 6, 1968 (Moscow 1974), 246—264.

MacDowall, D. W., The Copper Denominations of Menander, AcIr 2 ser. 2 (1975) = Monumentum H. S. Nyberg, 39—52.

MacDowell, R. H., Coins from Seleucia on the Tigris (Ann Arbor 1935).

MacGovern, W. M., The Early Empires of Central Asia. A Study of the Scythians and the Huns and the Part they Played in World History with Special Reference to the Chinese Sources (Chapel Hill 1939).

Machinskii, D. A., O vremeni pervogo aktivnogo vystupleniia sarmatov v Podneprov'e po svidetel'stvam antichnykh pis'mennykh istochnikov, AS 13 (1971), 30—54.

MacKay, E., Further Links between Ancient Sind, Sumer and Elsewhere, Antiquity 5, (1931), 459—473.

McMaster, D. N., The Ocean-Going Dhow Trade to East Africa, EAGR 4 (1966), 13—24.

MacMullen, R., The Anabolicae Species, Aegyptus 38 (1958), 184—198.

MacMullen, R., Roman Imperial Building in the Provinces, HSCPh 64 (1959), 207—235.

MacMullen, R., Inscriptions on Armor and the Supply of Arms in the Roman Empire, AJA 64.1 (1960), 23—40.

MacMullen, R., Market Days in the Roman Empire, Phoenix 24.4 (1970), 333—341.

MacMullen, R., Roman Social Relations 50 B.C. to A.D. 284 (New Haven 1974).

Maenchen-Helfen, O. J., Zur Geschichte der Lackkunst in China, WBKKGA 11 (1937), 32—64.

Maenchen-Helfen, O., Materialien zur Geschichte des chinesischen Lacks, OZ 23 (1937), 215—222.

Maenchen-Helfen, O. J., From China to Palmyra, Art Bulletin 25 (1943), 358—362.

Maenchen-Helfen, O. J., Huns and Hsiung-nu, Byzantion 17 (1944/1945), 222—243.

Maenchen-Helfen, O. J., The Legend of the Origin of the Huns, Byzantion 17 (1944/1945), 244—251.

Maenchen-Helfen, O. J., The Yüeh-chih Problem Re-examined, JAOS 65 (1945), 71—81.

Maenchen-Helfen, O. J., A Parthian Coin-Legend on a Chinese Bronze, AM n.s. 3.1 (1952), 1—6.

Maenchen-Helfen, O. J., Pseudo-Huns, CAJ 1.2 (1955), 101—106.

Maenchen-Helfen, O. J., Crenelated Mane and Scabbard Slide, CAJ 3 (1957), 85—138.

Maenchen-Helfen, O. J., A Chinese Bronze with Central-Asiatic Motives, BMFEA 30 (1958), 167—175.

Maenchen-Helfen, O. J., Archaistic Names of the Hiung-nu, CAJ 6.4 (1961), 249—261.

Maenchen-Helfen, O. J., The World of the Huns (Berkeley 1973).

Magi, F., Andature di cavalli nell'arte con particolare riguardo all'ambio nell'arte cinese dei Han, RSO 49. 1/2 (1975), 119—130.

Magie, D., Roman Rule in Asia Minor, 2 vols. (Princeton 1950).

Mahaffy, J. P., On New Papyrus Fragments from the Ashmolean Museum at Oxford, TrRoyIrAcad 31.6 (1897), 197—208.

Mahalingam, T. V., The Chronology of the Punch-marked Coins of South India, in: A. K. Narain and L. Gopal (eds.), Seminar Papers on the Chronology of the Punch-marked Coins, Memoirs of the Dept. of Ancient Indian History Culture and Archaeology no. 1 (Varanasi 1966), 19—25.

Maier, F. G., Römische Bevölkerungsgeschichte und Inschriftenstatistik, Historia 2 (1954), 318—357.

Maisler, B., Two Hebrew Ostraca from Tell Qasîle, JNES 10 (1951), 265—267.

Maity, S. K., The Gold Content of the Kushāṇa, the Kushāṇa Chiefs and the Sassanian Gold Coins from the Indian Museum, Calcutta, JNSI 20.2 (1958), 162—171.

Maity, S. K., The Gold Content of the Later Imperial Gupta Coins, JNSI 22 (1960), 266—268.

Maity, S. K., Metrological Study of the Gold Coins of Early India, JNSI 23 (1961), 259—266.

Maity, S. K., Economic Life in Northern India in the Gupta Period (cir. A.D. 300—550)^2, (Delhi/Patna 1970).

Maity, S. K., Currency and Exchange in Ancient India, in: D. C. Sircar (ed.), Early Indian Indigenous Coins (Calcutta 1971), 11—20.

Maiuri, A., Statuetta eburnea di arte indiana a Pompei, Le Arti 1.2 (1939), 111—115.

Majumdar, N. G., Peshawar Museum Inscription of the Year 168, EpInd 19 (1928), 202—203.

Majumdar, R. C., La paléographie des inscriptions du Champa, BEFEO 32 (1932), 127—139.

Majumdar, R. C., The Indika of Megasthenes, JAOS 78. 4 (1958), 273—276.

Majumdar, R. C., Hoards of Coins, JNSI 23 (1961), 128—132.

Majumdar, R. C., The Date of the Periplus of the Erythraean Sea, IHQ 38.2/3 (1962), 89—97.

Majumdar, R. C., The Date of Kaniṣka, in: A. L. Basham (ed.), Papers on the Date of Kaniṣka (Leiden 1963), 150—154.

Maksimova, A. G., Mogil'nik epokhi bronzy v urochishche Tau-Tary, TIIAEANKazSSR 14 (1962), 37—56.

Malaise, M., Pline l'Ancien a-t-il séjourné en Égypte?, Latomus 27 (1968), 852—863.

Malamat, A., Syro-Palestinian Destinations in a Mari Tin Inventory, IEJ 21.1 (1971), 31—38.

Malik, S. C., Archaeology as a Source in Writing Socio-Cultural and Socio-Economic History, Eastern Anthropologist 21 (1968), 291—304.

Malleret, L., L'art et la métallurgie de l'étain dans la culture d'Oc-èo, Artibus Asiae 11 (1948), 274—284.

Malleret, L., Une lampe romaine au Musée de Phnom Penh, BSEI n.s. 32.2 (1957), 187—188.

Malleret, L., Les lapidaires et artisans du verre de Vîrampatnam, ArtsAs 6 (1959), 93—106.

Malleret, L., L'archéologie du Delta du Mékong, vol. 1: L'exploration archéologique et les fouilles d'Oc-eo, Publ. EFEO 43 (Paris 1959).

Malleret, L., L'archéologie du Delta du Mékong, vol. 2: La civilisation matérielle d'Oc-eo, Publ. EFEO 43 (Paris 1960).

Malleret, L., Les Dodécaèdres d'or du site d'Oc-èo, Artibus Asiae 24 (1961), 343—350.

Malleret, L., L'archéologie du delta du Mékong, vol. 3: Plates, Publ.EFEO 43 (Paris 1962).

Malleret, L., L'archéologie du delta du Mékong, vol. 4: Cisbassac, Publ.EFEO 43 (Paris 1963).

Mallowan, M. E. L., Excavations at Brak and Chagar Bazar, Iraq 9 (1947), 1—87.

Mallowan, M. E. L., Nimrud and its Remains (London 1966).

Mallowan, M. E. L., An Early Mesopotamian Link with India, JRAS (1970), 192—194.

Manandian, H. A., The Trade and Cities of Armenia in Relation to Ancient World Trade^2, translated by N. G. Garsoian (Lisbon 1965).

Mandel'shtam, A. M., Mogil'nik Aruk-Tau v Bishkendskoi doline (Iuzhnyi Tadzhikistan), KSIIMK 76 (1959), 73—82.

Mandel'shtam, A. M., Arkheologicheski raboty v Bishkentskoi doline v 1967 g., TANTadzhSSR 103 (1959), 131—151.

Mandel'shtam, A. M., Novye dannye o Tulkharskom mogil'nike po rabotam 1958 g., TIIANTadzhSSR 27 (1961), 49—58.

Mandel'shtam, A. M., Kochevniki na puti v Indiiu, MIA 136 (Trudy Tadzhikskoi arkheologicheskie ekspeditsii Instituta arkheologii Academia nauk SSSR i In-ta istorii Academia nauk Tadzhikskoi SSR, vol. 5), (Moscow/Leningrad 1966).

Mandel'shtam, A. M., K predkushanskomy chekanu Baktrii, EV 17 (1966), 85—91.

Mandilaras, B. G., The Verb in the Greek Non-literary Papyri (Athens 1973).

Margabandhu, C., Trade Contracts between Western India and the Graeco-Roman World in the Early Centuries of the Christian Era, JESHO 8 (1965), 316—322.

Margoliouth, D. S., An Early Judaeo-Persian Document from Khotan in the Stein Collection with Other Early Persian Documents, JRAS (1903), 735—760.

Marichal, R., La solde des armées romaines d'Auguste à Septime Sévère d'après les P. Gen. Lat. 1 et 4 et P. Berlin 6866, AIPHOS 13 (1953), 399—421.

Marichal, R., Le papyrus latin 4 de Genève, in: Studi in onore di Aristide Calderini e Roberto Paribeni (Milan 1956), 2.225—241.

Marichal, R., Deux papyrus latins relatifs à l'administration financière de l'Égypte, BSAF (1964), 109—111.

Marichal, R., Quelques graffites inédits de La Graufesenque (Aveyron), CRAI (1971), 188—212.

Maricq, A., Hatra de Sanatrouq, Syria 32 (1955), 273—288 = Id., Classica et Orientalia (Paris 1965), 1—16.

Maricq, A., Les dernières années de Hatra: L'alliance romaine, Syria 34 (1957), 288—296 = Id., Classica et Orientalia (Paris 1965), 17—26.

Maricq, A., La grande inscription de Kaniṣka et l'Étéo-Tokharien. L'ancienne langue de la Bactriane, JA 246 (1958), 345—440.

Maricq, A., Res Gestae Divi Saporis, Syria 35 (1958), 245—360 = Id., Classica et Orientalia (Paris 1965), 37—102.

Maricq, A., La Province d'Assyrie créée par Trajan. A propos de la guerre parthique de Trajan, Syria 36 (1959), 254—263 = Id., Classica et Orientalia (Paris 1965), 103—112.

Maricq, A., Volegésias l'emporium de Ctésiphon, Syria 36 (1959), 264—276 = Id., Classica et Orientalia (Paris 1965), 113—126.

Maricq, A., Bactrien ou Étéo-Tokharien?, JA 248 (1960), 161—166.

Maricq, A., La plus ancienne inscription syriaque: celle de Birecik, Syria 39 (1962), 88—100 (completed posthumously by J. Pirenne and P. Devos) = Id., Classica et Orientalia (Paris 1965), 127—140.

Maricq, A., The Date of Kaniṣka, in: A. L. Basham (ed.), Papers on the Date of Kaniṣka (Leiden 1968), 179—199.

Marion, J., Note sur la contribution de la numismatique à la connaissance de la Maurétanie Tingitane, AntAfr 1 (1967), 99—118.

Maroti, E., Die zeitgenössische warenproduzierende Landwirtschaft in der Sicht Varros, AAntHung 18 (1970), 105—136.

Marquardt, J., Das Privatleben der Römer^2 (Leipzig 1886).

Marquardt, J., Eranšahr, nach der Geographie des Ps. Moses Zorenaci. Mit historisch-kritischem Kommentar und historischen und topographischen Excursen, Abhandlungen d. königlichen Gesellschaft d. Wissenschaften zu Göttingen, Philologisch-historische Klasse 3 (Göttingen 1901).

Marquer, P., Étude anthropométrique des ossements provenant des sépultures arabes de la region de Vohémar (Madagascar), BAM 28 (1947/1948), 68—80.

Marsh, F. B., The Reign of Tiberius (Oxford 1931).

Marshall, A. J., Flaccus and the Jews of Asia (Cicero pro Flacco 28.67—69), Phoenix 29.2 (1975), 139—154.

Marshall, J., Buddhist Gold Jewellery, ASIAnRep 1902—1903 (Calcutta 1904), 185—194.

Marshall, J., Mohenjo-daro (London 1931).

Marshall, J., Excavations in Taxila, ASIAnRep 1929—1930 (1935), 54—97.

Marshall, J., Greeks and Sakas in India, JRAS (1947), 3—32.

Martin, B. G., Arab Migrations to East Africa in Medieval Times, IJAHS 7.3 (1975), 367—390.

Martin, V., Les épistratèges; contribution à l'étude des institutions de l'Égypte gréco-romaine (Geneva 1911).

Martin, V., La politique des Achéménides. L'exploration prélude de la conquête, MH 22 (1965), 38—48.

Mason, H. J., Greek Terms for Roman Institutions. A Lexicon and Analysis, American Studies in Papyrology 13 (Toronto 1974).

Mason, R. J., Prehistory of the Transvaal (Johannesburg 1962).

Mason, R. J., Transvaal and Natal Iron Age Settlement Revealed by Aerial Photography and Excavation, AfrSt 27.4 (1968), 167—180.

Mason, R. J., First Early Iron Age Settlement in South Africa: Broederstroom 24/73, Brits District, Transvaal, SAJS 69 (1973), 324—325.

Maspero, H., Études d'histoire d'Annam, BEFEO 18 (1918), 1—36.

Maspero, H., Les origines de la communauté bouddhiste de Lo-yang, JA 225 (1934), 87—107.

Maspero, H., Influences occidentales en Chine avant les Han, Mélanges posthumes sur les religions et l'histoire de la Chine, III, Études historiques, Publications du Musée Guimet, Bibliothèque de Diffusion 59 (Paris 1950), 37—51.

Maspero, H., Un texte taoiste sur l'Orient romain, Mélanges posthumes sur les religions et l'histoire de la Chine, III, Études historiques, Publications du Musée Guimet, Bibliothèque de Diffusion 59 (Paris 1950), 95—108.

Maspero, H., Les documents chinois de la troisième expédition de Sir Aurel Stein en Asie Centrale (London 1953).

Masri, A., Collection de verres du musée de Hama, BJIV 3 (1964), 72—74.

Massey, R. E., A Note on the Early History of Cotton, SNR 6.2 (1924), 231—233.

Masson, E., Recherches sur les plus anciens emprunts sémitiques en grec, Études et Commentaires, vol. 67 (Paris 1967).

Masson, M. E., Po povodu neskol'kikh monetnykh nakhodok, zaregistrirovannykh na territorii Kazakhstana do 1947 goda, VANKazSSR (1948), 7. 56—60.

Masson, M. E., Neopublikovannye monetnye nakhodki, zaregistrirovannye na territorii Kirgizskoi SSR do 1947 goda, TIIALIKirFANSSR 2 (1948), 135—139.

Masson, M. E., K periodizatsii drevnei istorii Samarkanda, VDI (1950), 4. 155—166.

Masson, M. E., Novye dannye po drevnei istorii Merva, VDI (1951), 4. 89—101.

Masson, M. E., and Pugachenkova, G. A., Ottiski Parfianskii pechatei iz Nisy, VDI (1954), 4. 159—169.

Masson, M. E., and Pugachenkova, G. A., Parfianskie ritony Nisy, TIuTAKE 4 (Ashkhabad 1959).

Masson, M. E., Nakhodka na gorodishche Staraia Nisa datirovannoi parfianskoi tetradrakhmy, Mitridata I, VDI (1963), 2. 152—155.

Masson, M. E., Dve pal'mirskikh skul'pturnye stely iz Mervskogo oazisa, IANTSSR (1966), 1.55—62.

Masson, M. E., Two Palmyrene Stelae from the Merv Oasis, E&W n. s. 17 (1967), 239—247.

Masson, M. E., K voprosu o severnykh granitsakh gosudarstva 'Velikikh Kushan', in: Proceedings of the International Conference of the History, Archaeology and Culture of Central Asia in the Kushan Period, vol. 2 (Moscow 1975), 42—49.

Masson, O., Quelques noms sémitiques en transcription grecque à Délos et à Rhénée, in: Hommages à André Dupont-Sommer (Paris 1971), 61—73.

Masson, V. M., Denezhnoe khoziaistvo drevnei Srednei Azii po numizmaticheskim dannym, VDI (1955), 2. 37—47.

Masson, V. M., Drevnebaktriiskie monety, chekanennye po tipu tetradrakhm Geliokla, EV 11 (1956), 63—75.

Masson, V. M., K voprosy o chekane iuechzhiiskoi Baktrii, IOONANTadzhSSR 14 (1957), 109—114.

Masson, V. M., Drevnezemledel'cheskaia kul'tura Margiany, MIA 73 (Moscow/Leningrad 1959).

Masson, V. M., Khorezm i Kushany. Nekotorye voprosy khorezmiiskoi numizmatiki, EV 17 (1966), 79—84.

Masson, V. M., I monumenti archeologici dell'Asia Centrale. Influenze e relazioni greco-romane, in: La Persia e il mondo greco-romano (Roma, 11—14 aprile 1965), Accademia Nazionale dei Lincei, Anno 363 (1966), Quaderno no. 76, 357—381.

Masson, V. M., and Suriandi, V. I., Central Asia: Turkmenia before the Achaemenids, trans. by R. Tringham (New York 1972).

Mathew, G., Recent Discoveries in East African Archaeology, Antiquity 27 (1953), 212—218.

Mathew, G., The East African Coast until the Coming of the Portuguese, in: R. Oliver and G. Mathew (eds.), History of East Africa, vol. 1 (London 1963), 94—127.

Mathew, G., The Dating and the Significance of the Periplus of the Erythrean Sea, in: H. N. Chittick and R. I. Rotberg (eds.), East Africa and the Orient. Cultural Syntheses in Pre-Colonial Times (New York/London 1975), 147—163.

Matson, F. R., A Study of Temperatures in Firing Ancient Mesopotamian Pottery, in: R. H. Brill (ed.), Science and Archaeology (Cambridge, Mass. 1971), 65—79.

Mattha, G., Notes and Remarks on Mattha's 'Demotic Ostraka', Univ. of Egypt, Bull. Fac. of Arts, 18.2 (1956), 29—33.

Mattha, G., Notes and Remarks on Erichsen's 'Auswahl frühdemotischer Texte', Univ. of Egypt, Bull. Fac. of Arts, 18.2 (1956), 35—44.

Mattingly, H., Coins from a Site-Find in British East Africa, NC 5 ser. 12 (1932), 175.

Mattingly, H., The Palmyrene Princes and the Mints of Antioch and Alexandria, NC 5 ser. 16 (1936), 89—114.

Mattingly, H., The Imperial Recovery, CAH 12 (1939), 291—351.

Mattingly, H., The Monetary Systems of the Roman Empire from Diocletian to Theodosius I, NC 6 ser. 6 (1946), 111—120.

Mauny, R. A., Notes sur le problème Zimbabwe—Sofala, Studia 1 (1958), 176—183.

Mauny, R. A., Le périple de la Mer Érythrée et le problème du commerce romain en Afrique au sud du limes, JSA 38 (1968), 19—34.

Mauny, R. A., The Western Sudan, in: P. L. Shinnie (ed.), The African Iron Age (Oxford 1971), 66—87.

Mayence, F., La troisième campagne de fouilles à Apamée, BMRAH 3 ser. 5.1 (1933), 2—6.

Mazzini, G., Monete imperiali romani, 5 vols. (Milan 1957/58).

Medway, L., Niah Cave Animal Bone, VIII. Rhinoceros in Late Quarternary Borneo, SMJ 12 (1965), 77—82.

Mehta, R. N., Excavations at Devnīmorī, M.S. University Archaeology Series no. 8 (Baroda 1966).

Meier, C., Ein griechisches Ehrendekret vom Gareustempel in Uruk, MDAI(B) 1 (1960), 104—114.

Meiggs, R., The Dating of Fifth-Century Attic Inscriptions, JHS 86 (1966), 86—96.

Meiggs, R., and Lewis, D., A Selection of Greek Historical Inscriptions (Oxford 1969).

Meiggs, R., Roman Ostia^2 (Oxford 1973).

Meile, P., Les Yavanas dans l'Inde Tamoule, JA 232 (1940), 85—123.

Meister, K., Zur Datierung der Annalen des Tacitus und zur Geschichte der Provinz Ägypten, Eranos 46 (1948), 94—122.

Meredith, D., and Tregenza, L. A., Notes on Roman Roads and Stations in the Eastern Desert, Univ. of Egypt, Bull. Fac. of Arts 11.1 (1949), 97—126.

Meredith, D., and Tregenza, L.A., Mons Porphyrites: the North-West Village and Quarries, Univ. of Egypt, Bull. Fac. of Arts 12.1 (1950), 131—147.

Meredith, D., The Roman Remains in the Eastern Desert of Egypt, JEA 38 (1952), 94—111; 39 (1953), 95—106.

Meredith, D., Eastern Desert of Egypt: Notes on Inscriptions, CE 28 (1953), 126—141.

Meredith, D., Annius Plocamus: Two Inscriptions from the Berenice Road, JRS 93 (1953), 38—40.

Meredith, D., Eastern Desert of Egypt: Notes on Inscriptions, CE 29 (1954), 103—123.

Meredith, D., Inscriptions from the Berenice Road, CE 29 (1954), 281—287.

Meredith, D., The Myos Hormos Road: Inscriptions and Ostraca, CE 31 (1956), 356—362.

Meredith, D., Berenice Troglodytica, JEA 43 (1957), 56—70.

Merhart, G. von, Ein Eisenschmelzofen am Jenissei, ESA 4 (1929), 189—193.

Merker, I. L., A Greek Tariff Inscription in Jerusalem, IEJ 25.4 (1975), 238—244.

Merlin, A., Quelques remarques sur la carrière de L. Catilius Severus, légat de Syrie, in: Mélanges syriens offerts à Monsieur René Dussaud, vol. 1 (Paris 1939), 217—226.

Merson, R. A., A Curious Aspect of Monetary History — the Use of Roman Coins in Later Ages, SCMB (April 1975), 115—117.

Merzagora, M., La navigazione in Egitto nell'età greco-romana, Aegyptus 10 (1929), 105—148.

Meshel, Z., and Tsafrir, Y., The Nabataean Road from 'Avdat to Sha'ar-Ramon, Part I: The Survey of the Road, PEQ (1974), 103—118.

Meshel, Z., and Tsafrir, Y., The Nabataean Road from 'Avdat to Sha'ar Ramon, Part II: The Features of the Road, PEQ (1975), 3—21.

Meshkeris, V. A., Kollektsiia terrakot Muzeia istorii AN UzSSR, IOONANTadzhSSR 47 (1961), 80—94.

Meshkeris, V. A., Terrakoty Samarkandskogo muzeia. Katalog drevnikh statuetok i drugikh melkikh skul'pturnykh izdelii iz obozhzhennoi gliny, khraniashchikhsia v Resp. muzee istorii kul'tury i iskusstva UzSSR v. g. Samarkande (Leningrad 1962).

Metcalf, M., Statistische Analyse bei der Auswertung von Münzfundmaterialien, JNG 9 (1958), 187—196.

Metcalf, M., The Aegaean Coastlands under Threat: Some Coins and Coin Hoards from the Reign of Heraclius, ABSA (1962), 14—23.

Metcalf, W. E., The 'Cairo' Hoard of Tetrarchic Folles, RBN 120 (1974), 73—107.

Metcalf, W. E., The Tell Kalak Hoard and Trajan's Arabian Mint, ANSMN 20 (1975), 39—108.

Metzger, R. U., A Greek and Aramaic Inscription Discovered at Armazi in Georgia, JNES 15.1 (1956), 18—26.

Meuleau, M., Problèmes d'histoire économique, JESHO 8 (1965), 68—80.

Meunif, J., Shotorak, MDAFA 10 (Paris 1942).

Meyer, E., Neuere Forschungsergebnisse zur Geschichte der Schweiz in römischer Zeit, JSGUF 54 (1968/69), 77—98.

Meyers, P., Non-Destructive Activation Analysis of Ancient Coins Using Charged Particles and Fast Neutrons, Archaeometry 11 (1969), 67—83.

Michaïlidis, G., Deux vases à inscriptions épigrammatiques trouvés en Égypte, ASAE 57 (1962), 79—98.

Michałowski, K., Palmyre. Fouilles polonaises 1959 (Warsaw 1960).

Michałowski, K., Palmyre. Fouilles polonaises 1960 (Warsaw 1962).

Michałowski, K., Palmyre. Fouilles polonaises 1961 (Warsaw 1963).

Michałowski, K., Palmyre. Fouilles polonaises 1962 (Warsaw 1964).

Michałowski, K., Palmyre. Fouilles polonaises 1963 et 1964 (Warsaw 1966).

Michałowski, K., Les fouilles polonaises à Tell Atrib (1957—1959), ASAE 57 (1962), 49—66.

Michałowski, K., Fouilles polonaises à Tell Atrib en 1960, ASAE 57 (1962), 67—77.

Michałowski, K., Polish Excavations at Faras, 1962—63, Kush 12 (1964), 195—207.

Michałowski, K., Po prezhnemuli ostaetsia zagadkoi gruppa X?, VDI (1967), 2.104—111.

Michaud, P., The Yellow Turbans, MS 17 (1958), 47—125.

Micklin, P. P., Dimensions of the Caspian Sea Problem, SovGeog 13.9 (1972), 589—603.

Mickwitz, G., Geld und Wirtschaft im römischen Reich des vierten Jahrhunderts n. Chr., Societas Scientiarum Fennica. Commentationes Humanarum Litterarum 4.2 (Helsingfors 1932).

Mickwitz, G., Ein Goldwertindex der römisch-byzantinischen Zeit, Aegyptus 13 (1933), 95—106.

Mihailescu-Birliba, V., Circulaţia monetară la triburile libere de la răsărit de Carpaţi (sec. II—IV), MAAMP 2 (1970), 281—344. (Eng. rés.)

Mildenberger, G., Verschleppte Bodenfunde. Ein Beitrag zur Fundkritik, BJ 169 (1969), 1—28.

Miles, G. C., Excavation Coins from the Persepolis Region, NNM no. 143 (New York 1959).

Milik, J. T. and Seyrig, H., Trésor monétaire de Murabba'ât, RN 6 ser. 1 (1958), 11—24.

Milik, J. T., Notes d'épigraphie orientale, 1: La tessère des archers palmyréniens de Birtha, Syria 37 (1960), 94—95.

Milik, J. T., À propos d'un atelier monétaire d'Adiabène: Natounia, RN 6 ser. 4 (1962), 51—58.

Milik, J. T., Inscription araméenne en caractères grecs de Doura-Europos et une dédicace grecque de Cordove, Syria 44 (1967), 289—306.

Milik, J. T., Les papyrus araméens d'Hermoupolis et les cultes syro-phéniciens en Égypte perse, Biblica 48.4 (1967), 546—621.

Milik, J. T., Recherches d'épigraphie proche-orientale, 1: Dédicaces faites par des dieux (Palmyre, Hatra, Tyr) et des thiases sémitiques à l'époque romaine, BAH 92 (Paris 1972).

Millar, F., The Fiscus in the First Two Centuries, JRS 53 (1963), 29—42.

Millar, F., Some Evidence on the Meaning of Tacitus, Annals XII.60, Historia 13 (1964), 180—187.

Millar, F., The Development of Jurisdiction by Imperial Procurators: Further Evidence, Historia 14 (1965), 362—367.

Millar, F. (ed.), The Roman Empire and its Neighbours (New York 1966).

Millar, F., The Emperor, the Senate and the Provinces, JRS 56 (1966), 156—166.

Millar, F., Emperors at Work, JRS 57 (1967), 9—19.

Millar, F., Paul of Samosata, Zenobia and Aurelian: The Church, Local Culture and Political Allegiance in Third-Century Syria, JRS 61 (1971), 1—17.

Miller, F., Sur une inscription grecque découverte à Cheikh Abad, l'ancienne Antinoé, RA n. s. 11 (1870), 2. 311—318.

Miller, F., Inscriptions grecques découvertes en Égypte, RA 3 ser. 2 (1883), 172—184.

Miller, J. I., The Spice Trade of the Roman Empire (Oxford 1969).

Miller, N. P., Tiberius Speaks: An Examination of the Utterances Ascribed to him in the Annals of Tacitus, AJPh 89.1 (1968), 1—19.

Miller, R. A., Accounts of Western Nations in the History of the Northern Chou Dynasty (Berkeley 1959).

Miller, S. F., Contacts between the Later Stone Age and the Early Iron Age in Southern Central Africa, Azania 4 (1969), 81—90.

Millet, N. B., Gebel Adda Expedition Preliminary Report 1963—1964, JARCE 3 (1964), 7—14.

Millot, M., Les ruines de Mahilaka, BAM 10 (1912), 283—288.

Mills, E. A. C., and Filmer, N. T., Chondwe Iron Age Site, Ndola Zambia, Azania 7 (1972), 129—145.

Milne, J. G., The Alexandrian Coinage of Galba, NC 4 ser. 9 (1909), 274—284.

Milne, J. G., Alexandrian Tetradrachms of Tiberius, NC 4 ser. 10 (1910), 333—339.

Milne, J. G., A Hoard of Constantinian Coins from Egypt, JIAN 6 (1914), 1—27.

Milne, J. G., The Currency of Egypt under the Romans to the Time of Diocletian, LAAA 7 (1914), 51—66.

Milne, J. G., Leaden Tokens from Memphis, Ancient Egypt (1915), 107—121.

Milne, J. G., The Organisation of the Alexandrian Mint in the Reign of Diocletian, JEA 3 (1916), 207—217.

Milne, J. G., The Alexandrian Coinage of the Early Years of Hadrian, NC 4 ser. 17 (1917), 31—52.

Milne, J. G., Some Alexandrian Coins, JEA 4 (1917), 177—186.

Milne, J. G., The Shops of the Roman Mint of Alexandria, JRS 8 (1918), 154—178.

Milne, J. G., Two Roman Hoards of Coins from Egypt, JRS 10 (1920), 169—184.

Milne, J. G., Feudal Currency in Roman Egypt, Ancient Egypt (1926), 1. 5—9.

Milne, J. G., The Currency of Egypt in the Fifth Century, NC 5 ser. 6 (1926), 43—92.

Milne, J. G., The Alexandrian Coinage of Augustus, JEA 13 (1927), 135—140.

Milne, J. G., Egyptian Nationalism under Greek and Roman Rule, JEA 14 (1928), 226—234.

Milne, J. G., Ptolemaic Coinage in Egypt, JEA 15 (1929), 150—163.

Milne, J. G., The Roman Regulation of Exchange Values in Egypt: A Note, JEA 16 (1930), 169—170.

Milne, J. G., The Nome Coins of Egypt, Ancient Egypt (1932), 3. 73—78.

Milne, J. G., Catalogue of Alexandrian Coins (Oxford 1933).

Milne, J. G., Report on Coins Found at Tebtunis in 1900, JEA 21 (1935), 210—216.

Milne, J. G., Trade between Greece and Egypt before Alexander the Great, JEA 25 (1939), 177—183.

Milne, J. G., Report on the Coins Found at Antinoe in 1914, NC 6 ser. 7 (1947), 108—114.

Milne, J. G., Roman Coinage in Egypt in Relation to the Native Economy, Aegyptus 32 (1952), 143—151.

Minajeva, T. M., Zwei Kurgane aus der Völkerwanderungszeit bei der Station Šipovo, ESA 4 (1929), 194—210.

Minattur, J., Malaya: What's in a Name?, JSS 54.1 (1966), 19—28.

Mingana, A., The Early Spread of Christianity in India, BJRL 10 (1926), 435—510.

Minns, H., Scythians and Greeks. A Survey of Ancient History and Archaeology on the North East of the Euxine from the Danube to the Caucasus (Cambridge 1913).

Minns, E. H., Parchments of the Parthian Period from Avroman in Kurdistan, JHS 35 (1915), 22—65.

Minorsky, V., Some Early Documents in Persian, I, JRAS (1942), 181—194.

Minorsky, V., Roman and Byzantine Campaigns in Atropatene, BSOAS 11.2 (1943/46), 243—265.

Minorsky, V., Vīs u Rāmīn: A Parthian Romance, BSOAS 11 (1943—1946), 741—763; 12 (1947—1948), 20—35.

Mirashi, V. V., A New Hoard of Satavahana Coins from Tarhala (Akola District), JNSI 2 (1940), 83—94.

Mirashi, V. V., A Ship-Type Coin of Yajna-Satakarni, JNSI 3 (1941), 43—45.

Mirashi, V. V., Notes on Saka-Sātavāhana Coins, JNSI 22 (1960), 113—117.

Mirashi, V. V., Wategaon Hoard of Satavahana Coins, JNSI 34 (1972), 205—212.

Mirashi, V. V., Danigaon Hoard of Kshatrapa and Traikutaka Coins, JNSI 35 (1973), 118—122.

Mirza, A. H., The Early Use of Rock-Crystal in Hind-Pakistan, JPHS 19 (1971), 61—72.

Mishra, S. V., Sea and Land Trade Routes in India as Revealed in the Buddhist Literature, JIH 32.2 (1954), 117—127.

Mitard, P. H., Les monnaies comme éléments de datation d'une site archéologique. Importance du degré d'usure, BSFN 18.3 (1963), 233.

Mitchell, T. C., A South Arabian Tripod Offering Saucer Said to be from Ur, Iraq 31.2 (1969), 112—114.

Mitchiner, M., A Small Hoard Containing Coins of Arda-Mitra, NC 7 ser. 9 (1969), 301—304.

Mitchiner, M., The Local Coinage of Taxila and Gandhara (c. 220 to 160 B.C.), JNSI 35 (1973), 48—72.

Mitchiner, M., A Late Post-Mauryan Coin Hoard, JNSI 36 (1974), 20—24.

Mitford, T. B., Some Inscriptions from the Cappadocian Limes, JRS 64 (1974), 160—175.

Mitsopoulos-Leon, V., Gefäße der Ostsigillata A von einem gesunkenen Schiff aus dem Golf von Antalya, Germania 53 (1975), 101—112.

Mittmann, S., Die römische Straße von Gerasa nach Adraa, ZDPV 80 (1964), 113—136.

Miyazaki, I., Les villes en Chine à l'époque des Han, TP 2 ser. 48 (1960), 376—392.

Mlaker, K., Die Herodulenlisten von Maʿīn, nebst Untersuchungen zur altsüdarabischen Rechtsgeschichte und Chronologie, Sammlung Orientalistischer Arbeiten 15 (Leipzig 1943).

Modrzejewski, J., La régle de droit dans l'Égypte romaine (Etat des questions et perspectives de recherches), in: D. H. Samuel (ed.), Proceedings of the Twelfth International Congress of Papyrology, ASP 7 (Toronto 1970), 317—377.

ʿAbd el-Mohsen el-Khasháb, Ptolemaic and Roman Baths of Kōm el-Ahmar, ASAE Suppl. 10 (Cairo 1949).

ʿAbd el-Mohsen el-Khashab, Les monnaies coulées fausses et les moules monétaires et à bijoux du Cabinet des Médailles du Musée du Cairo, ASAE 51 (1951), 29—51.

Mokri, M., La pêche des perles dans le Golfe Persique, JA 248 (1960), 381—396.

Molé, M., Culte, mythe et cosmologie dans l'Iran ancien, AMG Bibliothèque d'Études 69 (Paris 1963).

Momigliano, A., Ammiano Marcellino e la *Historia Augusta* (a proposito del libro di Ronald Syme), AAT 103 (1969), 423—436.

Mommsen, Th., Eine Inschrift des älteren Plinius, Hermes 19 (1884), 644—648.

Mommsen, Th., Ägyptische Legionare, Hermes 35 (1900), 443—452.

Mommsen, Th., Zum ägyptischen Münzwesen, APF 1 (1901), 273—284.

Monneret de Villard, U., Storia della Nubia cristiana, Orientalia christiana analecta 118 (Rome 1938).

Monneret de Villard, U., La Nubia Romana (Rome 1941).

Monneret de Villard, U., Un avorio dell'Asia Centrale, scoperto nei pressi di Roma, Asiatica 7 (1942), 3—5.

Monneret de Villard, U., Le monete dei Kushana e l'impero Romano, Orientalia n. s. 17 (1948), 205—245.

Monneret de Villard, U., The Temple of the Imperial Cult at Luxor, Archaeologia 95 (1953), 85—105.

Montanari, G. B., Frammento di sarcofago romano del Museo di Ravenna con raffigurazione di un 'Argentarius', Congresso Internazionale di Numismatica, Roma, 11—16 Sett. 1961, vol. 2 (Rome 1965), 451—456.

Montell, G., Sven Hedin's Archaeological Collections from Khotan, BMFEA 7 (1935), 145—221; 10 (1938), 83—113.

Montevecchi, O., Nerone a una polis e ai 6475, Aegyptus 50 (1970), 5—33.

Moore, F. G., Three Canal Projects, Roman and Byzantine, AJA 54.1 (1950), 97—111.

Moore, P. R., and Tiller, E. M., Radiocarbon Dates for New Zealand Archaeological Sites, NNZAA 18.3 (1975), 98—107.

Mooren, L., Notes concernant quelques stratèges ptolémaïques, AncSoc 1 (1970), 9—24.

Mooren, L., The Date of SB V. 8036 and the Development of the Ptolemaic Maritime Trade with India, AncSoc 3 (1972), 127—133.

Moravcsik, G., Byzantinoturcica, I. Die byzantinischen Quellen der Geschichte der Türkvölker^{2}, BBA 10 (Berlin 1958).

Moretti, L., Due note epigrafiche, Athenaeum n.s. 33 (1955), 32—46.

Mori, Masao, Der Staat der Hsiung-nu, SGZ 59.5 (1960), 1—21 (in Japanese); cf. Islam 35 (1960), 126—127.

Mori, Shtkazo, Han Time Documents from Chü-Yen with Particular Reference to those Discovered at Ulan-Durbeljin, Acta Asiatica 3 (1962), 1—15.

Mori, Shikazo, Kyōen shatsudo no Ō Mō kan, Tōhōgakuhō 33 (1963), 257—266; cf. RBS (1963), no. 91.

Morise, Y., Wild Silk in Manchuria, ChJour 18 (1928), 238—246.

Mørkholm, O., Graeske Mønter fra Failaka, KUML (1960), 199—207 (English rés.).

Mørkholm, O., En hellenistisk Møntskat fra Bahrain, KUML (1972), 183—202 (English rés.).

Mørkholm, O., A Coin of Artaxerxes III, NC 7 ser. 14 (1974), 1—4.

Morris, T. O., Copper and Bronze Antiquities from Burma, JBRS 28.2 (1938), 95—99.

Morrison, K. E., and Gunthal, H., Carolingian Coinage, NNM 158 (New York 1967).

Moseley, G., A Sino-Soviet Cultural Frontier: The Ili-Kazakh Autonomous Chou (Cambridge 1966).

Moshinskaia, V. I., Gorodishche i kurgany Potchevash (K voprosu o potchvashskoi kul'ture), MIA 35 (1953), 189—220.

Moshkova, M. G., Novo-Kumakskii kurgannyi mogil'nik bliz g. Orska, in: Pamiatniki Skifo-Sarmatskoi kul'tury, MIA 115 (Moscow 1962), 204—241.

Moss, A. A., The Origin of the Nickel Alloy Used for Bactrian Coins (c. 200 B.C.), NC 6 ser. 10 (1950), 317—318.

Motamedi, H., Two New Outstanding Koshan Statues, Afghanistan 23.4 (1971), 20—23.

Mouhandes, K., Collection de verres du musée d'Alep, BJIV 3 (1964), 35—40.

Mouterde, R., La Strata Diocletiana et ses bornes milliaires, MUSJ 15.6 (1930), 221—233.

Mouterde, R., and Poidebard, A., La voie antique des caravanes entre Palmyre et le Nil au II^{e} siècle ap. J.-C., Syria 12 (1931), 101—115.

Mowat, R., Le titre d'Augusta conféré à Maesa, à Soaemias et à Mammée par Septime Sévère: à propos de moules monétaires trouvés en Égypte, RN 4 ser. 12 (1908), 18—36.

Mrozek, S., Über die Arbeitsbedingungen in römischen Bergwerken des 2. Jahrhunderts u. Z., Altertum 14.3 (1968), 162—170.

Mrozek, S., Zur Geldfrage in den Digesten, AAntHung 183/84 (1970), 353—360.

Müller, Jörg W., Datierung des römischen Theaters in Lenzburg durch die Münzfunde, RSN 47 (1968), 105—130.

MÜLLER, W., Zum Edikt des Tiberius Julius Alexander, in: Festschr. f. Friedrich Zucker zum 70. Geburtstage (Berlin 1954), 293—297.
MÜLLER, W., Griechische Ostraka aus Elephantine/Syene, I, MIO 5.1 (1957), 1—9.
MÜLLER, W., Griechische Ostraka aus Elephantine/Syene, II, MIO 6.1 (1958), 1—13.
MÜLLER, W., Sklaven in der Textilindustrie des ptolemäischen Ägypten, Acta Antiqua Philippopolitana (Sofia 1963), 27—32.
MÜLLER, W., Griechische Ostraka, APF 16 (1958), 190—213.
MÜLLER, W. W., Review of A. JAMME, The Al-ʿUqlah Texts (Washington 1963), BiOr 21.5/6 (1964), 379—380.
MÜLLER, W. W., Eine habräisch-sabäische Bilinguis aus Bait al-Ašwāl, NESE 2 (1974), 117—123.
MÜLLER, W. W., Eine sabäische Gesandtschaft in Ktesiphon und Seleukeia, NESE 2 (1974), 155—165.
MÜNZER, F., Beiträge zur Quellenkritik der Naturgeschichte des Plinius (Berlin 1897).
MÜNZER, F., Die Quelle des Tacitus für die Germanenkriege, BJ 104 (1899), 67—111.
MÜNZER, F., Norbanus, Hermes 67 (1932), 220—236.
MÜNZER, F., Aus dem Verwandtenkreise Caesars und Octavians, Hermes 71 (1936), 222—230.
MUKHERJEE, B. N., On the Absence of Darics in India, IHQ 33 (1957), 65—79.
MUKHERJEE, B. N., The Prototype of an Obverse Device of Kushāṇa Coinage, JNSI 22 (1960), 109—112.
MUKHERJEE, B. N., A Mewasa Stone Inscription of the Time of the Kṣatrapas of Western India, JRAS (1961), 106—114.
MUKHERJEE, B. N., Shāh-jī-kī-Ḍherī Casket Inscription, BMQ 28 (1964), 39—45.
MUKHERJEE, B. N., International Value of Kushāṇa Gold Coinage in Relation to Roman Currency, Congresso Internazionale di Numismatica, 11—16 sett., Roma 1961, vol. 2 (Rome 1965), 475—478.
MUKHERJEE, B. N., The Location of a Mint of the Azes Dynasty, NC 7 ser. 5 (1965), 109—112.
MUKHERJEE, B. N., Studies in Kushāṇa Genealogy and Chronology, vol. 1: The Kushāṇa Genealogy (Calcutta 1967).
MUKHERJEE, B. N., The Kushāṇas and the Deccan, Pt. I: Kanishka I and the Deccan (Calcutta 1968).
MUKHERJEE, B. N., On the Question of Identity of the Scythians and the Śakas (Sakas)?, Bharati 10/11 (1966/68), 10—11.
MUKHERJEE, B. N., Some Observations on the Date of Kaniṣka I, in: A. L. BASHAM (ed.), Papers on the Date of Kaniṣka (Leiden 1968), 200—205.
MUKHERJEE, B. N., An Agrippan Source: A Study in Indo-Parthian History (Calcutta 1969).
MUKHERJEE, B. N., Nanā on Lion: A Study in Kushāna Numismatic Art (Calcutta 1969).
MUKHERJEE, B. N., Graeco-Roman Bullae from Ujjain, JNSI 32 (1970), 201—202.
MUKHERJEE, B. N., Some Observations on the Metrology of the Indo-Greek and Scytho-Parthian Coins, JNSI 32 (1970), 144—149.
MUKHERJEE, B. N., The Epigraphic Evidence from Kara Tepe and the So-called Old Saka Era, E&W n.s. 21 (1971), 69—73.
MUKHERJEE, B. N., The Location of the Mint of Some Indo-Parthian Coins, JNSI 33 (1971), 110—111.
MUKHERJEE, B. N., Central Asian Coins Bearing Chinese and Kharoshthi Inscriptions, JNSI 35 (1973), 101—105.
MUKHERJEE, B. N., The Historical Significance of a Gold Coin of Vasudeva II, JNSI 36 (1974), 109—110.
MUKHERJEE, B. N., An Interesting Coin from Sonkh, Mathura, MBAS (Aug. 1974), 5—6.
MUKHERJEE, B. N., Problems of Dated Images of the Mathura School of Sculpture of the Kushan Period, in: Proceedings of the International Conference of the History, Archaeology and Culture of Central Asia in the Kushan Period, vol. 2 (Moscow 1975), 346—362.
MUKHTAROV, A., Novye nakhodki kamennykh kapitelei Kushanskogo vremeni iz Shakhrinau (Iuzhnyi Tadzhikistan), in: Proceedings of the International Conference of the History, Archaeology and Culture of Central Asia in the Kushan Period, vol. 2 (Moscow 1975), 374—377.

MURDOCK, G. P., Africa, its Peoples and their Culture (New York 1959).

MURRAY, G. W., The Roman Roads and Stations in the Eastern Desert of Egypt, JEA 11 (1925), 138—150.

MURRAY, G. W., and DERRY, D., A Predynastic Burial on the Red Sea Coast of Egypt, Man 23 (1923), art. no. 81, 129—131.

MURRAY, G. W., The Christian Settlement at Qattâr, BSRGE 24 (1951), 107—114.

MURRAY, M. A., Indians in Africa, Man (June 1956), art. no. 89, 87.

MUSHEGIAN, KH. A., Monetnye Klady Armenii (Erevan 1973).

MUSIL, A., The Northern Heğâz (New York 1926).

MUSS-ARNOLT, W., Semitic Words in Greek and Latin, TAPhA 23 (1892), 35—136.

MUSTAMANDI, S., Preliminary Report on Hadda's Fifth Excavation Period, Afghanistan 24.2/3 (1971), 128—137.

MUSTAMANDI, S., Les nouvelles fouilles de Hadda, in: Proc. of the International Conf. on the Hist., Arch. and Culture of Central Asia in the Kushan Period, Dushanbe, Sept. 27—Oct. 6, 1968 (Moscow 1974), 107—112.

MUSTI, A., The Northern Ḥeğâz, A Topographical Itinerary, American Geographical Society Oriental Explorations and Studies no. 1 (New York 1926).

MUSTI, D., I Successor di Tolomeo Euergete II, PP 15 (1960), 432—446.

MUSURILLO, H., S. J., Early Christian Economy: A Reconsideration of P. Amherst 3 (a) (= WILCKEN, Chrest. 126), CE 31 (1956), 124—133.

MZIK, V. H., Des Klaudios Ptolemaios Einführung in die darstellende Erdkunde (Erster Teil), Klotho Bd. 5 (Wien 1938).

NADEAU, J. Y., Ethiopians, CQ n.s. 20.2 (1970), 339—349.

NAGY, L., Aquincumi Múmiatemetkezések, Diss. Pannonicae 1 ser. 4 (Budapest 1935).

NANAVATI, J. M., MEHTA, R. N., and CHOWDHARY, S. N., Somnath—1956, Department of Archaeology, Gujarat State and Department of Archaeology and Ancient History, M.S. University of Baroda, Monograph 1 (Baroda 1971).

NARAIN, A. K., Some Interesting Coins of Sophytes and the Problem of his Identification, JNSI 11 (1950), 93—99.

NARAIN, A. K., The Coin-Types of the Indo-Greek Kings, JNSI 16 (1954), 297—331.

NARAIN, A. K., The Date of Kaniṣka, in: A. L. BASHAM (ed.), Papers on the Date of Kaniṣka (Leiden 1968), 206—243.

NARAIN, A. K., The Two Hindu Divinities on the Coins of Agathocles from Ai-Khanum, JNSI 35 (1973), 73—77.

NARAYANA, N. S., Three Hoards of Chinese Coins in Madras Government Museum, JNSI 33 (1971), 61—68.

NAROLL, R., On Ethnic Unit Classification, CA 5 (1964), 283—291.

NASH, D., The Kuft Hoard of Alexander III Tetradrachms, NC 7 ser. 14 (1974), 14—30.

NASTER, P., Un trésor de tetradrachmes athéniens trouvé à Tell el-Maskhouta (Égypte), RBN 94 (1948), 5—14.

NASTER, P., Were the Labourers of Persepolis Paid by Means of Coined Money?, AncSoc 1 (1970), 29—134.

NASTER, P., Karsha et Shequel dans les documents araméens d'Éléphantine, RBN 116 (1970), 31—35.

NASTER, P., Méthode de métrologie monétaire appliquée aux monnaies d'Athènes, RBN 120 (1974), 5—17.

NAUMANN, R., HUFF, D., KLEISS, W., and BOEHMER, R. M., Takht-i Suleiman und Zendan-i Suleiman, AA 80.4 (1965), 619—788.

NAUTIYAL, K. P., Three Kushāna Gold Coins from Kashipur, JNSI 24 (1962), 180—181.

NAVEH, J., The North-Mesopotamian Aramaic Script-type in the Late Parthian Period, IOS 2 (1972), 293—304.

NAVILLE, É, La stèle de Pithom, ZÄS 40 (1902—1903), 66—75.

NEEDHAM, J., Science and Civilization in China, vol. 1 (Cambridge 1954).

NEEDHAM, J., Science and Civilization in China, vol. 4, pt. 3 (Cambridge 1971).

Needham, J., and Gwei-Djen, Lu., Efficient Equine Harness; the Chinese Inventions, Physis 2 (1960), 121—162.

Needham, J., Abstract of Material Presented to the International Maritime History Commission at Beirut, in: M. Mollat (ed.), Sociétés et campagnies de commerce en Orient et dans d'Océan Indien, Actes du 8^{e} Colloque intern. d'histoire maritime (Beyrouth 5—10 Sept. 1966), Bibliothèque générale de l'École Pratique des Hautes Études (Paris 1970), 6^{e} sec., 159—165.

Negev, A., 'Avdat, IEJ 9.4 (1959), 274—275.

Negev, A., 'Avdat: A Caravan Halt in the Negev, Archaeology 14.2 (1961), 122—130.

Negev, A., Nabatean Inscriptions from 'Avdat (Oboda), IEJ 11 (1961), 127—138.

Negev, A., Nabatean Inscriptions from 'Avdat (Oboda), IEJ 13.2 (1963), 113—124.

Negev, A., Mampsis (Kurnub) Hoard of Roman and Provincial Silver: A Preliminary Note, INJ 3 (1965/66), 27—31.

Negev, A., The Date of the Petra-Gaza Road, PEQ 98 (1966), 89—98.

Negev, A., Oboda, Mampsis and Arabia, IEJ 17.1 (1967), 46—55.

Negev, A., New Dated Nabatean Graffiti from the Sinai, IEJ 17.4 (1967), 250—255.

Negev, A., The Chronology of the Middle Nabatean Period, PEQ 101 (1969), 5—14.

Negev, A., Nabatean Capitals in the Towns of the Negev, IEJ 24. 3/4 (1974), 153—159.

Nelson, C. A., Census Returns from Arsinoe, ZPE 9.3 (1972), 245—258.

Nelson, C. A., Vernasius Facundus, Prefect of Egypt, BASP 9.3/4 (1972), 49—52.

Neuburg, F., Ancient Glass (Toronto 1962).

Neusner, J., Parthian Political Ideology, Iranica Antiqua 3.1 (1963), 40—59.

Neusner, J., Some Aspects of the Economic and Political Life of Babylonian Jewry, ca. 160—220 C.E., PAAJR 31 (1963), 165—195.

Neusner, J., The Conversion of Adiabene to Judaism: A New Perspective, JBL 83 (1964), 60—66.

Neusner, J., A History of the Jews in Babylonia, vol. 1: The Parthian Period (Leiden 1965), vol. 2: The Early Sasanian Period (Leiden 1966), vol. 3: From Shapur I to Shapur II (Leiden 1968), vol. 4: The Age of Shapur II (Leiden 1969), vol. 5: Later Sasanian Times (Leiden 1970), Studia post-biblica 9, 11, 12, 14, 15.

Newbold, Sir D., A Desert Odyssey of a Thousand Miles, SNR 7 (1924), 43—83.

Newbold, Sir D., Deraheib Gold Mines, Antiquity 23 (1948), 33—34.

Newell, E. T., The Fifth Dura Hoard, NNM no. 58 (New York 1933).

Newell, F. T., The Pre-Imperial Coinage of Antioch, NC 4 ser. 19 (1919), 69—113.

Newman, J., The Commercial Life of the Jews in Babylonia between the Years 200 C.E. and 500 C.E. (London 1932?).

Nguyên Phuc Long, Les nouvelles recherches archéologiques au Viêtnam, ArtsAs spec. no. (1975), 1—154.

Nibbi, A., The Sea Peoples and Egypt (Park Ridge 1975).

Nibbi, A., Egyptian Anchors, JEA 61 (1975), 38—41.

Nicodemt, G., Le Raccolte numismatiche del Castello Sforzesco, le monete dell'Impero romano, 2 vols. (Milan 1928/1940).

Nicolet, C., L'Ordre Équestre à l'époque républicaine (312—43 av. J.C.), vol. 1: Définitions juridiques et structures sociales, BEFAR 207 (Paris 1966).

Nicolet-Pierre, H., Monnaies grecques trouvées en Afghanistan, RN 6 ser. 15 (1973), 35—42.

Nilakanta Sastri, K. A.., s. Sastri, K. A. N.

Nissen, H., Der Verkehr zwischen China und dem Römischen Reiche, Jahrbücher des Vereins von Altertumsfreunden im Rheinlande 95 (1894), 1—28.

Njammasch, M., Dorfverleihungen und Landschenkungen im Dekhan vom 1. bis zum 5. Jahrhundert u. Z., Klio 54 (1972), 251—307.

Nodelman, S. A., A Preliminary History of Characene, Berytus 13.2 (1959/1960), 83—121.

Noe, S. P., Hoard Evidence and its Importance, Hesperia Suppl. 8 (1949), 235—242.

Nöldeke, T., Geschichte der Perser und Araber zur Zeit der Sasaniden (Leiden 1879).

Nöldeke, T., Syrische Inschriften, ZA 21 (1908), 151—161.

Nörr, D., Zur sozialen und rechtlichen Bewertung der freien Arbeit in Rom, ZSS 82 (1965), 67—105.

Noonan, J. T., The Scholastic Analysis of Usury (Cambridge, Mass. 1957).

NORDEN, E., Die germanische Urgeschichte in Tacitus' Germania (Leipzig ^{3}1923, Stuttgart ^{4}1959, repr. Darmstadt 1974).

NORDEN, E., Die Geburt des Kindes. Geschichte einer religiösen Idee (Leipzig 1924, repr. Darmstadt 1969).

NORMAN, K. R., Notes on the Greek Version of Aśoka's Twelfth and Thirteenth Rock Edicts, JRAS (1972), 2.111—118.

NUBER, E., and LA BAUME, P., Ein Fund früher Denare in Köln. Zur Lokalisierung des Oppidum Ubiorum, KJVFG 10 (1968), 37—46.

NYBERG, H. S., Quelques inscriptions antiques découvertes récemment en Géorgie, Eranos 44 (1946), 228—243.

NYBERG, H. S., Die sasanidische Westgrenze und ihre Verteidigung, in: Septentrionalia et Orientalia, Studia Bernhardo Karlgren Dedicata, Kungl. Vitterhets Historie och Antikvitets Akademiens Handingar 91 (1959), 316—326.

NYANDOH, R., and CHIN, L., A Progress Report on Archaeological Work at Gedong (1967—1969), SMJ 17 (1969), 80—88.

NYLANDER, C., Bemerkungen zur Steinbruchgeschichte von Assuan, AA (1968/69), 6—10.

NYLANDER, C., Ionians in Pasargadae, Studies in Old Persian Architecture, Acta Universitatis Uppsaliensis (Uppsala 1970).

OATES, D., A Note on Three Latin Inscriptions from Hatra, Sumer 11 (1955), 39—43.

OATES, D. and J., Ain Sinu: A Roman Frontier Post in Northern Iraq, Iraq 21.2 (1959), 207—242.

OATES, D., Studies in the Ancient History of Northern Iraq (London 1968).

OATES, J. F., The Status Designation Πέρσης τῆς ἐπιγονῆς, YCS 18 (1963), 1—129.

OATES, J. F., Romanization of the Greek East: The Evidence of Egypt, BASP 2.2 (1965), 57—64.

OATES, J. F., Fugitives from Philadelphia, in: Essays in Honour of C. Bradford Welles (New Haven 1966), 87—95.

OATES, J. F., A Rhodian Auction Sale of a Slave Girl, JEA 55 (1969), 191—210.

OATES, J. F., Census Totals: Nemesion's Notes, in: A. E. HANSON (ed.), Collectanea Papyrologica. Texts Published in Honour of H. C. Youtie, vol. 1, Papyrologische Texte und Abhandlungen 19 (Bonn 1976), 189—196.

OBEL'CHENKO, O. V., Liavandakskii mogil'nik, IMKUz 2 (1961), 97—176.

OBEL'CHENKO, O. V., Kurgannye Mogilniki Epokhi Kushan v Bu'kharskom Oazise, in: Proc. of the International Conf. on the Hist., Arch. and Culture of Central Asia in the Kushan Period, Dushanbe Sept. 21—Oct. 6, 1968 (Moscow 1974), 202—209.

O'CONNOR, S. J., Si Chon: An Early Settlement in Peninsular Thailand, JSS 56.1 (1968), 1—18.

ODDY, W. A., The Analysis of Gold Coins — A Comparison of Results Obtained by Nondestructive Methods, Archaeometry 14.1 (1972), 109—112.

ODDY, W. A., and HUGHES, M. J., The Specific Gravity Method for the Analysis of Gold Coins, in: E. T. HALL and D. M. METCALF (eds.), Methods of Chemical and Metallurgical Investigation of Ancient Coinages (London 1972), 75—87.

ODNER, K., Usangi Hospital and the Archaeological Sites in the North Pare Mountains, North-Eastern Tanzania, Azania 6 (1971), 89—130.

ODNER, K., A Preliminary Report on an Archaeological Survey on the Slopes of Kilimanjaro, Azania 6 (1971), 131—149.

OELSNER, J., Zur Bedeutung der 'Graeco-Babyloniaca' für die Überlieferung des Sumerischen und Akkadischen, MIO 17.3 (1972), 356—364.

OERTEL, F., Die Liturgie. Studien zur ptolemäischen und kaiserlichen Verwaltung Ägyptens (Leipzig 1917).

OERTEL, F., Das Problem des antiken Suezkanals, in: K. REPGEN and S. SKALWEIT (eds.), Spiegel der Geschichte, Festgabe für Max Braubach zum 10. April 1964 (Münster 1964), 18—51.

OGATA, ISAMU, Kandai tondensei no ichi kōsatu: Toku ni Butei shōtei ki o chūshin ni, Shigaku zasshi 72 (1963), 359—388, cf. RBS (1963), no. 89.

Ohlenroth, L., Zur Datierung der Funde von Arikamedu, Germania 30. 3/4 (1952), 389—392.

Oikonomides, Al. N., Soter the Great — the Last of the Indo-Greek Kings, JNSI 35 (1973), 82—89.

Okladnikov, A. P., Arkheologicheskie issledovaniia v Buriat-Mongolii, IANSSSR ser. istorii i filosofii 8.5 (1951), 440—450.

Okladnikov, A. P., The Soviet Far East in Antiquity: An Archaeological and Historical Study of the Maritime Region of the USSR, Arctic Institute of North America, Anthropology of the North: Translations from Russian Sources no. 6 (Toronto 1965).

Oliver, A. O., Jr., Persian Export Glass, JGS 12 (1970), 9—16.

Oliver, A. O., Jr., Review of H.-P. Bühler, Antike Gefäße aus Edelsteinen (Mainz 1973), AJA 79.2 (1975), 165—167.

Oliver, R., and Fage, J. D., A Short History of Africa (London 1962).

Oliver, R., The Problem of Bantu Expansion, JAH 7 (1966), 361—376.

Olmstead, A. T., The Mid-Third Century of the Christian Era, CPh 37.3 (July 1942), 241—262; 37.4 (Oct. 1942), 398—420.

O'Neale, L. M., A Survey of the Woollen Textiles in the Sir Aurel Stein Collections, AmerAnthro n.s. 38 (1936), 414—432.

O'Neale, L. M., and Durrell, D. E., An Analysis of the Central Asian Silks Excavated by Sir Aurel Stein, SWJA 1 (1945), 392—442.

Onaiko, N. A., Antichnyi import na territorii Srednego Pridneprov'ia (VII—V vv. do n.e.), SA (1960), 2. 25—41.

Onaiko, N. A., Economicheskie Sviazi Antichnykh Gorodov Severnago Prichernomov'ia s Plomenami Pridneprov'ia v Pobuzh'ia, VDI (1970), 1. 112—120.

Onaiko, N. A., Zametki o tekhnike bosporskoi torevtiki, SA (1974), 3. 78—86.

Onyango-Abuje, J. C., The History of Archaeological Research in East Africa from 1890—1970, KHR 2.2 (1974), 251—264.

Ooteghem, J. von, Gaius Marius, Bibliothèque de la Faculté de Philosophie et Lettres de Namur, fasc. 35 (Namur 1964).

Oppenheim, A. L., A Fiscal Practice of the Ancient Near East, JNES 6 (1947), 116—120.

Oppenheim, A. L., The Seafaring Merchants of Ur, JAOS 74 (1954), 6—17.

Oppenheim, A. L., Essay on Overland Trade in the First Millenium B.C., JCS 21 (1967), 236—254.

Oppenheim, A. L., Brill, R., Barag, D., and Saldern, A. von, Glass and Glassmaking in Ancient Mesopotamia (New York 1970).

Oppenheim, A. L., Toward a History of Glass in the Ancient Near East, JAOS 93 (1973), 259—266.

Oppenheim, A. L., More Fragments with Instructions for Glassmaking, JNES 32 (1973), 188—193.

Organization Committee of the Exhibition of Archaeological Finds of the People's Republic of China: The Exhibition of Archaeological Finds of the People's Republic of China (Toronto 1974).

Origo, I., The Merchant of Prato: Francesco di Marco Datini (New York 1957).

Ormerod, H. A., Piracy in the Ancient World (Liverpool 1924, repr. Chicago, 1967).

Ōshima Toshikazu, Ton-den to dai-den, Tōyōshi kenkyū 14 (1955), 1—22, cf. RBS (1955), no. 92.

Ostraz, A., Note sur le plan de la partie mediane de la rue principale de Palmyre, AAS 19 (1969), 109—120.

Otto, W., Beiträge zur Seleukidengeschichte des 3. Jahrhunderts vor Chr., ABAW 34 (Munich 1928), no. 1.

Oxe, A., Zur älteren Nomenklatur der römischen Sklaven, RhM N.F. 59 (1904), 108—140.

Oxtoby, W. G., Some Inscriptions of the Safaitic Bedouin, AOS 50 (New Haven 1968).

Pagenstecher, R. (E. von Sieglin, ed.), Die griechisch-ägyptische Sammlung Ernst von Sieglin, Expedition Ernst von Sieglin. Ausgrabungen in Alexandria, vol. 2 (Leipzig 1913).

Page, D., Sappho and Alcaeus. An Introduction to the Study of Ancient Lesbian Poetry (Oxford 1955).

Pagliaro, A., Mediopersiano *bitaχš*, armeno *bdeašχ*: ὁ ὀφθαλμὸς τοῦ βασιλέως, RSO 12 (1929/30), 160—168

Pagliaro, A., Riflessi di etimologie iraniche nella tradizione storiografica greca, RAL 8 ser. 9.5—6 (1954), 133—152.

Pagliaro, A., Riflessi di diritto romano nella dottrina sassanide, in: La Persia e il mondo greco-romano, Accademia Nazionale dei Lincei, anno 363 (1966), Quaderno n. 76, 13—26.

Pai, M. G., Chronology of Sakas, Pahlavas and Kushanas, JIH 14.3 (1935), 309—342.

Pakhomov, E. A., Monety iz raskopok gorodishcha Oren-Kala, in: Srednevekovye Pamiatniki Azerbaidzhana, MIA 133 (Moscow/Leningrad 1965), 90—107.

Palmer, J. A. B., The Identification of Ptolemy's Dounga, JRAS (1946), 3/4. 165—173.

Palmer, J. A. B., Periplus Maris Erythraei: The Indian Evidence as to the Date, CQ 41 (1947), 137—140.

Palmer, J. A. B., Periplus Maris Erythraei: ἐμπόριον νόμιμον and other expressions, CQ n.s. 1 (1951), 156—158.

Palmer, L. R., The Interpretation of Mycenaean Greek Texts (Oxford 1963).

Palmgren, N. (ed.), Selected Antiquities from the Collection of Gustaf Adolf, Crown Prince of Sweden (Stockholm 1948).

Pandey, D. B., Cowrie as a Monetary Token in Ancient India, JNSI 28.2 (1966), 127—142.

Pani, M., Roma e i re d'Oriente da Augusto a Tiberio (Bari 1972).

Panikhar, K. M., India and China through the Ages, AR 48 (1952), 86—95.

Pankhurst, R., The Greek Coins of Aksum, Abba Salama 6 (1975), 70—81.

Pape, W., Wörterbuch der griechischen Eigennamen^3 (Braunschweig 1875).

Paranavitana, S., Epigraphical Summary, Ceylon Jour. of Sc. 2.3 (1933), section G, 178—181.

Paranavitana, S., The Greeks and the Mauryas (Colombo 1971).

Paratore, E., Tacito (Milan 1951).

Paribeni, R., Optimus Princeps, 2 vols. (Messina, 1926—1927).

Paribeut, R., Ricerche nel Luogo dell'Antica Adulis, Monumenti Antichi 18 (1902), 437—472.

Paris, P., Note sur deux passages de Strabon et de Pline, JA 239 (1951), 13—27.

Parlasca, K., Ein hellenistisches Achat-Rhyton in China, Artibus Asiae 37.4 (1975), 280—290.

Parmentier, H., Notes d'archéologie indochinoise, I: Relevé des points čams découverts en Annam depuis la publication de l'Inventaire, BEFEO 23 (1923), 267—275.

Parr, A. T., La Date du Barrage du Sîq à Pétra, RB 14.1 (1967), 45—49.

Parr, P. J., Exploration archéologique du Hedjaz et de Madain, RB 76.3 (1969), 390—393.

Parr, P. J., Harding, G. L., and Dayton, J. E., Preliminary Survey in N.W. Arabia, 1968, BIAL 8/9 (1968/69), 193—242.

Parr, P. J., Harding, G. L., Dayton, E., and Milik, J. T., Preliminary Survey in N.W. Arabia, 1968, BIAL 10 (1971), 23—61.

Parsons, P. J., A Proclamation of Vaballathus?, CE 42 (1967), 397—401.

Parsons, P. J., Philippus Arabs and Egypt, JRS 51 (1967), 134—141.

Parsons, P. J., Ulpius Serenianus, CE 49 (1974), 135—178.

Parsonson, G. S., The Settlement of Oceania: An Examination of the Accidental Voyage Theory, in: J. Golsen (ed.), Polynesian Navigation: A Symposium on Andrew Sharp's Theory of Accidental Voyages, JPS Supplement, Memoir no. 34 (Wellington 1963), 11—63.

Partsch, J., Die Grenzen der Menschheit, Teil I: Die antike Oikumene, BKSGW 68.2 (Leipzig 1916).

Paruck, F. D. J., Three Bronze Coins of Persis, JNSI 1 (1939), 53—57.

Paruck, F. D. J., Observations of Five Sassanian Coins, JNSI 1 (1939), 58—71.

Passerini, A., Epigrafia Mariana, Athenaeum n.s. 17 (1939), 54—77.

Patabiramin, P. Z., Les fouilles d'Arikamedu (Podouke) (Paris 1946).

Patterson, C. C., Dwindling Stocks of Silver, and their Relevance to Studies of the Metal Contents of Silver Coinage, in: E. T. Hall and D. M. Metcalf (eds.), Methods of Chemical and Metallurgical Investigation of Ancient Coinage (London 1972), 149—152.

PAYNE, J. C., Lapislazuli in Early Egypt, Iraq 30 (1968), 58—61.

PEACOCK, B. A. V., A Short Description of Malagan Prehistoric Pottery, AP 3 (1959), 121—156.

PEACOCK, B. A. V., Recent Archaeological Discoveries in Malaysia, 1964, JMBRAS 38.1 (1965), 248—253.

PEACOCK, B. A. V., Early Cultural Development in South-East Asia, with Special Reference to the Malay Peninsula, APAO 6.2 (1971), 107—123.

PEAKE, H., The Copper Mountain of Magan, Antiquity 2 (1928), 452—457.

PEARCE, J. W. E., A Late Hoard of Æ 3 and Æ 4 from Egypt, NC 5 ser. 11 (1931), 318—319.

PEARCE, J. W. E., More Late *Aes* from Egypt, NC 5 ser. 18 (1938), 117—126.

PEARL, O. M., Transport Charges in Egypt in the Era of Inflation, TAPhA 83 (1952), 74—79.

PEARSON, L., The Lost Histories of Alexander the Great, APhA Monograph 20 (Cleveland 1960).

PEARSON, R., Recent Radiocarbon Dates from Ryukyu Sites and their Chronological Significance, in: W. G. SOLHEIM II (ed.), Archaeology at the Eleventh Pacific Science Congress: Papers presented at the XI. Pacific Science Congress, Tokyo, August—September 1966 (Honolulu 1967), 19—23.

PÉDECH, P., Sur un fragment du géographe Artémidore, in: J. BINGEN, G. CAMBIER and G. NACHTERGAEL (eds.), Le monde grec. Pensée, littérature, histoire, documents. Hommages à Claire Préaux (Bruxelles 1975), 318—324.

PEEK, G., Griechische Vers-Inschriften aus Ägypten, ZPE 10.3 (1973), 230—248.

PEIRIS, E., Greek and Roman Contacts with Ceylon, CHJ 10. 1/4 (1960/61), 8—30.

PEKÁRY, T., Studien zur römischen Währungs- und Finanzgeschichte von 161 bis 235 n. Chr., Historia 8 (1959), 443—489.

PEKÁRY, T., Le 'tribut' aux Perses et les finances de Philippe l'Arabe, Syria 38 (1961), 275—283.

PEKÁRY, T., Bemerkungen zur Chronologie des Jahrzehnts 250—260 n. Chr., Historia 11 (1962), 123—128.

PEKÁRY, T., Untersuchungen zu den römischen Reichsstraßen, Antiquitas 1. R. 17 (Bonn 1968).

PELLIOT, P., Le Fou-nan, BEFEO 3 (1903), 248—303.

PELLIOT, P., Deux intinéraires de Chine en Inde à la fin du VII^{e} siècle, BEFEO 4 (1904), 131—413.

PELLIOT, P., Review of E. CHAVANNES, Les pays d'Occident d'après le Wei Lio, TP 2 ser. 6 (1905), 519—571, BEFEO 6 (1906), 361—400.

PELLIOT, P., Review of F. HIRTH and W. W. ROCKHILL, Chau Ju-kua: His Work on the Chinese and Arab Trade in the Twelfth and Thirteenth Centuries (St. Petersburg 1912), TP 2 ser. 13 (1912), 446—461.

PELLIOT, P., L'Origine du Nom de 'Chine', TP 2 ser. 13 (1912), 727—742.

PELLIOT, P., Les noms propres dans les traductions Chinoises du Milindapañha, JA 185 (1914), 379—419.

PELLIOT, P., Li-kien autre nom du Ta-Ts'in (Orient Méditerranéen), TP 2 ser. 16 (1915), 690—691.

PELLIOT, P., Le 'Cha Tcheou Tou Fou T'ou King' et la colonie Sogdienne de la région du Lob Nor, JA 11ser. 7 (1916), 111—123.

PELLIOT, P., Note sur les anciens noms de Kučā, d'Aqsu et d'Uč-Turfan, TP 2 ser. 22 (1921), 126—132.

PELLIOT, P., Les bronzes de la collection Eumorfopoulos publiés par M. W. P. Yetts (I et II), TP 2 ser. 27 (1930), 359—406.

PELLIOT, P., A propos du 'Tokharien', TP 2 ser. 32 (1936), 259—284.

PELLIOT, P., Le nom du χwārizm dans les textes chinois, TP 2 ser. 34 (1938), 146—152.

PERDRIZET, P., Bronzes grecs d'Égypte de la collection Fouquet (Paris 1911).

PEREMANS, W., Ἕλληνες dans P. Paris 66 (UPZ II.157), CE 11 (1936), 517—521.

PEREMANS, W., Noms de personne et nationalité dans l'Égypte ptolémaïque, Le Muséon 59 (1946), 241—252.

PEREMANS, W., and VAN'T DACK, E., Contribution à l'interprétation de SB I 1568 et V 8036, in: IDEM, Prosopographica, Studia Hellenistica 9 (Leiden 1953), 11—21.

PEREMANS, W., Über die Zweisprachigkeit im ptolemäischen Ägypten, Festschrift F. Oertel, Studien zur Papyrologie und antiken Wirtschaftsgeschichte (Bonn 1964), 49—60.

PEREMANS, W., Sur l'identification des Égyptiens et des étrangers dans l'Égypte des Lagides, AncSoc 1 (1970), 25—38.

PERERA, B. J., The Foreign Trade and Commerce of Ancient Ceylon, I: The Ports of Ancient Ceylon, CHJ 1. 2 (1951), 104—119.

PERERA, B. J., The Foreign Trade and Commerce of Ancient Ceylon, II: Ancient Ceylon and its Trade with India, CHJ 1.3 (1952), 192—204.

PERERA, B. J., The Foreign Trade and Commerce of Ancient Ceylon, III: Ancient Ceylon's Trade with the Empires of the Eastern and Western Worlds, CHJ 1.4 (1952), 301—320.

PERIKHANIAN, A., Inscription araméenne gravée sur une coupe d'argent trouvée à Sissian (Arménie), REArmen n.s. 8 (1971), 5—11.

PERIKHANIAN, A. G., Sasanidskii Sudebnik (Erevan 1973).

PERROT, P. N., and WEINBERG, G. D., Chronique archéologique: Jalamet el Asafna, RB 72 (1965), 577—579.

PERSSON, A., Staat und Manufaktur im römischen Reiche, Skrifter utg. av Vetenskapssocieteten i Lund 3 (Lund 1923).

PERUMALIL, A., 'Citerior India' (Another Rejoinder), JIH 26 (1948), 199—200.

PESTMAN, P. W., A proposito dei documenti di Pathyris II, Πέρσης τῆς ἐπιγονῆς, Aegyptus 43 (1963), 15—53.

PESTMAN, P. W., Harmachis et Anchmachis, deux rois indigènes du temps des Ptolémées, CE 40 (1965), 157—170.

PESTMAN, P. W., A Greek Testament from Pathyris, JEA 55 (1969), 129—160.

PESTMAN, P. W., Loans Bearing no Interest?, JJP 16/17 (1971), 7—29.

PETECH, L., Rome and Eastern Asia, E&W n. s. 2 (1951), 72—76.

PETECH, L., Some Chinese Texts Concerning Ceylon, CHJ 3. 3—4 (1954), 217—227.

PETECH, L., A Kharosthī Inscription from Butkara I (Swat), E&W n. s. 16. 1/2 (1966), 80—81.

PETECH, L., On Huang-chih, E&W n.s. 17 (1967), 295—301.

PETECH, L., Kashmir and Tibetan Materials on the Date of Kaniṣka, in: A. L. BASHAM (ed.), Papers on the Date of Kaniṣka (Leiden 1968), 244—246.

PETERSEN, L., Iulius Iulianus, Statthalter von Arabien, Klio 48 (1971), 159—167.

PETRIE, W. M. F., Hawara, Biahmu and Arsinoe (London 1889).

PETRIE, W. M. F., Koptos (London 1896).

PETRIE, W. M. F., in: W. SIMPSON, The Buddhist Praying Wheel, JRAS (1898), 873—875.

PETROV, M. D., Once Again about the Dessication of Asia, SovGeog (Dec. 1966), 15—24.

PETTAZZONI, R., La confession des péchés en Syrie aux époques préchrétiennes, in: Mélanges syriens offerts à Monsieur René Dussaud, vol. 1 (Paris 1939), 197—202.

PFEILER, I., Drei westliche Münzstätten unter Šapur I. anhand zweier Funde, SM 23 (1973), 129—145.

PFISTER, R., Textiles de Palmyre (Paris 1934).

PFISTER, R., Nouveaux textiles de Palmyre (Paris 1937).

PFISTER, R., Textiles de Palmyre, vol. 3 (Paris 1940).

PFISTER, R., Textiles de Halabiych (Zenabia), découverts par le service des antiquités de la Syrie dans la nécropole de Halabiyeh sur l'Euphrate, BAH 48 (Paris 1951).

PFISTER, R., L'introduction du Coton en Égypte musulmane, RAA 11.3 (1937), 167—172.

PFISTER, R., Les soieries Han de Palmyre, RAA 13.2 (1941), 67—77.

PFISTER, R., and BELLINGER, L., The Excavations at Dura-Europos, Final Report IV, part II: The Textiles (New Haven 1945).

PFLAUM, H.-G., Les gouverneurs de la province romaine d'Arabie de 193 à 305, Syria 34 (1957), 128—133.

PFLAUM, H.-G., Les carrières procuratoriennes équestres sous le Haut-Empire romain, vol. 1 (Paris 1960).

PFLAUM, H.-G., Un nouveau diplôme militaire d'un soldat de l'armée d'Égypt, Syria 44 (1967), 339—362.

PFLAUM, H.-G., Remarques sur le changement de statut administratif de la province de Judée: À propos d'une inscription récemment découverte à Sidé de Pamphylie, IEJ 19.4 (1969), 225—233.

PFLAUM, H.-G., Une inscription bilingue de Kos et la perception de la vicesima Hereditatum, ZPE 7.1 (1971), 64—68.

PHILBY, H. ST. J. B., The Lost Ruins of Quraiya, GJ 117 (1951), 448—458.

PHILBY, H. ST. J. B., Note on Ryckmans 535, Le Muséon 73 (1960), 395—417.

PHILLIPS, E. D., The Legend of Aristeas: Fact and Fancy in Early Greek Notions of East Russia, Siberia, and Inner Asia, Artibus Asiae 18.2 (1955), 161—177.

PHILLIPS, E. D., New Light on the Ancient History of the Eurasian Steppe, AJA 61 (1957), 269—280.

PHILLIPS, E. D., A Further Note on Aristeas, Artibus Asiae 20. 2/3 (1957), 159—162.

PHILLIPSON, D. W., The Early Iron Age in Zambia, Regional Variants and Some Tentative Conclusions, JAH 9 (1968), 191—211.

PHILLIPSON, D. W., The Early Iron Age Site of Kapwirimbwe Lusaka, Azania 3 (1968), 87—105.

PHILLIPSON, D. W., and FAGAN B. M., The Date of the Ingombwe Ilede Burials, JAH 10.2 (1969), 199—204.

PHILLIPSON, D. W., Excavations at Twickenham Road, Lusaka, Azania 5 (1970), 77—115.

PHILLIPSON, D. W., Early Iron Age Sites on the Zambian Copperbelt, Azania 7 (1972), 93—128.

PHILLIPSON, D. W., Iron Age History and Archaeology in Zambia, JAH 15.1 (1974), 1—25.

PHILLIPSON, D. W., The Chronology of the Iron Age in Bantu Africa, JAH 16.3 (1975), 321—342.

PICARD, C., Le guerrier blésse de l'Agora des Italiens à Delos, BCH 56 (1932), 491—530.

PICARD, C., Sur quelques représentations nouvelles du phare d'Alexandrie et sur l'origine alexandrine des Paysages Portuaires, BCH 76 (1952), 61—95.

PICARD, C., Lampes de bronze alexandrines à Volubilis et Banasa (Maroc), RA 6 ser. 45 (1955), 63—68.

PICARD, C., La lampe alexandrine de P'ong Tuk (Siam), Artibus Asiae 2 (1955), 137—149.

PICARD, C., Les lions chevauchés de Timna et la sculpture alexandrine de l'Arabia Felix, RA 6 ser. 46 (1955), 74—78.

PICARD, C., Un thème alexandrin sur un médaillon de Begram: La cuisson symbolique du Porc, BCH 79 (1955), 509—527.

PICARD, C., A Figurine of Lysippan Type from the Far East: The Tra-Vinh Dancer, Artibus Asiae 19 (1956), 342—349.

PICARD, C., Le Nain Bossu au coq de Strasbourg, et les lagynophories alexandrines, Gallia 16.1 (1958), 83—94.

PICARD, C., Propos et documents concernant la toreutique alexandrine, RA (1961), 1. 113—150.

PICOZZI, V., Le monete nei Vangeli, QTNAC (1972), 79—87.

PIERCE, R. H., Notes on Obols and Agios in Demotic Papyri, JEA 51 (1965), 155—159.

PIGANIOL, A., Observations sur le Tarif de Palmyre, RH 195 (1945), 10—23.

PIGANIOL, A., Review of F. A. LEPPER, Trajan's Parthian War, Oxford 1948, RH 204.2 (1950), 279—280.

PIGANIOL, A., Le statut augustéen de l'Égypte et sa destruction, MH 10. 3/4 (1953), 193—202.

PIGULEVSKAIA, N. V., Economic Relations in Iran during the IV—VI Centuries A.D., JCOI 38 (1956), 62—81.

PIGULEVSKAIA, N. V., Les villes de l'état iranien aux époques parthe et sassanide. Documents et recherches sur l'économie des pays byzantins, islamiques et slaves et leurs relations commerciales au Moyen Âge, vol. 6 (Paris 1963).

PIGULEVSKAIA, N. V., Byzanz auf den Wegen nach Indien, BBA 36 (Berlin 1969).

PIGULEVSKAIA, N. V., Zur Geschichte des Handels in und durch Südarabien im Altertum. Die historische Bedeutung der Inschrift RES 4337, JWG (1971), 2. 145—147.

PIJOAN, J., A Greek Glass Vase from China, BurlMag 41 (1922), 235—239.

PILIPKO, V. N., Pamiatniki parfianskogo vremeni v raione Annau, IANTadzSSR (1973), 5. 59—64.

PILIPKO, V. N., Klad parfianskogo monet iz Garry-Kiariza (Parfiena), VDI (1976), 2.114—121.

PINCHES, T. G., Greek Transcriptions of Babylonian Tablets, PSBA 24 (1902), 108—119.

PIPPIDI, D. M., Sur une route commerciale de l'antiquité tombée dans l'oubli, StudClas 10 (1968), 243.

PIRENNE, H., Medieval Cities: Their Origins and the Revival of Trade (Princeton 1925, repr. 1969).

PIRENNE, H., Economic and Social History of Medieval Europe, translated from the French edition of 1933 (New York 1937).

PIRENNE, J., Paléographie des inscriptions sud-arabes. Contribution à la chronologie et à l'histoire de l'Arabie du Sud antique, I. Des origines à l'époque himyarite, Vernandelingen van de Koninklijke Vlaamse Academie voor Wetenschappen, Letteren en Schone Kunsten van Belgie, Klasse der Letteren 26 (Bruxelles 1956).

PIRENNE, J., L'inscription 'Ryckmans 535' et la chronologie sud-arabe, Le Muséon 69 (1956), 165—180.

PIRENNE, J., Le rinceau dans l'evolution de l'art sud-arabe, Syria 34 (1957), 99—127.

PIRENNE, J., Chronique d'archéologie sud-arabe 1955—1956, Annales d'Éthiopie 2 (1957), 37—68.

PIRENNE, J., La fin du royaume de Qatabān dans la chronologie sud-arabe, in: H. FRANKE, Akten des XXIV Int. Orientalisten-Kongresses (Munich 1957), 262—263.

PIRENNE, J., Notes d'archéologie sud-arabe, Syria 37 (1960), 326—347.

PIRENNE, J., Le royaume sud-arabe de Qataban et sa datation, BdM 48 (Louvain 1961).

PIRENNE, J., Un problème-clef pour la chronologie de l'Orient: La date du 'Périple de la Mer Érythrée', JA 249 (1961), 441—459.

PIRENNE, J., Le développement de la navigation Égypte-Inde dans l'antiquité, in: M. MOLLAT (ed.), Sociétés et compagnies de commerce en Orient et dans l'Océan Indien, Actes du 8 Colloque Intern. d'Histoire Maritime (Beyrouth 5—10 Sept. 1966), Bibliothèque générale de l'École Pratique des Hautes Études (Paris 1970), 6e sec., 101—119.

PIRENNE, J., Une législation hydrologique en Arabe du Sud antique, in: Hommages à Dupont-Sommer (Paris 1971), 117—135.

PIRENNE, J., Notes d'archéologie sud-arabe, Syria 49 (1972), 193—217.

PISANI, V., Indisch-griechische Beziehungen aus der Mahābhārata, ZDMG 103. 2 (1953), 126—139.

PLAUMANN, G., Ptolemais in Oberägypten. Ein Beitrag zur Geschichte des Hellenismus in Ägypten, Leipziger histor. Abhandlungen 18 (Leipzig 1910).

PLEKET, H. W., Note on a Customs-Law from Caunus, Mnemosyne 4 ser. 11 (1958), 128—135.

PLEKET, H. W., Grieken in den vreemde. Een Griekse Inscriptie uit Afghanistan, Hermeneus 46.3 (1974/75), 38—40.

PLUMER, J. M., Certain Celadon Potsherds from Sāmarrā Traced to their Source, ArsIs 4 (1937), 195—200.

PLUMLEY, J. M., Qaṣr Ibrîm 1963—1964, JEA 50 (1964), 3—5.

PLUMLEY, J. M., Qaṣr Ibrîm 1966, JEA 52 (1966), 9—12.

PLUMLEY, J. M., Qaṣr Ibrîm 1969, JEA 56 (1970), 12—18.

POGNON, M. H., Notes lexicographiques et textes assyriens inédits, JA 11 ser. 9 (1917), 373—414.

POIDEBARD, A., La trace de Rome dans le désert de Syrie, BAH 18 (Paris 1934).

POIRIER, C., Réflexions sur les ruines de Mailaka, BAM 28 (1947/48), 97—101.

POKROVSKAIA, E. F., Melitopolskii Skifski kurgan, VDI (1955), 2. 191—199.

POLANYI, K., Marketless Trading in Hammurabi's Time, in: K. POLANYI, C. M. ARENSBERG and H. W. PEARSON (eds.), Trade and Market in the Early Empires (New York 1957), 12—26.

POLANYI, K., Ports of Trade in Early Societies, JEH 23 (1963), 30—45.

POLANYI, K., Traders and Trade, in: J. A. SABLOFF and C. C. LAMBERG-KARLOVSKY (eds.), Ancient Civilization and Trade (Albuquerque 1975), 133—154.

Polaschek, E., Ptolemy's Geography in a New Light, Imago Mundi 14 (1959), 17—37.

Polotsky, H. J., The Greek Papyri from the Cave of the Letters, IEJ 12, 3/4 (1962), 258—262.

Pomey, P., News: Hyères (Var), IJNA 5.3 (1976), 261.

Pomorska, I., Polish Excavations in Egypt and the Sudan in the Season 1968—69, AfrBull 12 (1970), 73—80.

Ponzi, M. N., Sasanian Glassware from Tell Mahuz (North Mesopotamia), Mesopotamia 3—4 (1968—69), 213—384.

Pope, A. U., Preliminary Report on Takht-i-Sulayman: The Significance of the Site, BAIIAA 5.2 (1937), 71—83.

Posener, G., Le Canal du Nil à la Mer Rouge avant les Ptolémées, CE 13 (1938), 259—273.

Posener, G., Les douanes de la Méditerranée dans l'Égypte Sait, RPh (1947), 117—131.

Posener, G., Pour une localisation du pays Koush au Moyen Empire, Kush 6 (1958), 39—68.

Posnansky, M., Bantu Genesis — Archaeological Reflexions, JAH 9.1 (1968), 1—11.

Postan, M. M., The Rise of a Money Economy, EHR 14 (1944), 123—134.

Postan, M. M., Medieval Trade and Finance (Cambridge 1973).

Poucha, P., The Problem of the Age of the Mahābhārata, ArchOr 6 (1934), 53—57.

Pouwels, R. L., Tenth Century Settlement of the East African Coast: The Case for Qarmatian Isma'ili Connections, Azania 9 (1974), 65—74.

Pozzi, E., Tesoretto di Era Flavia da Pompei, AIIN 5/6 (1958/59), 211—229.

Pozzi, E., Soprintendenza alle antichità della Campania, AIIN 5/6 (1958/59), 270—278.

Prakash, B., The Parthians: A Reappraisal, VIJ 2.2 (1964), 307—318.

Prakash, B., Indo-Chinese Relations in the Seventh Century, JAIH 5 1/2 (1971/72), 1—26.

Prakash, J., The Bearing of a Study of Hoards on the Chronology of the Punch-marked Coins, in: A. K. Narain and L. Gopal (eds.), Seminar Papers on the Chronology of the Punch-marked Coins, Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 1 (Varanasi 1966), 77—80.

Prakash, J., The Bearing of Trade and Commerce on the Chronology of Punch-marked Coins, in: A. K. Narain and L. Gopal (eds.), Seminar Papers on the Chronology of the Punch-marked Coins, Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 1 (Varanasi 1966), 81—85.

Prakash, J., The Geographical Distribution, Chronology and Issuing Authority of the Local Taxilian Coins, in A. K. Narain (ed.), Seminar Papers on the Local Coins of Northern India ca. 300 B.C. to 300 A.D., Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 2 (Varanasi 1968), 18—22.

Prakash, V., Coinage of South India (An Introductory Survey), NSI, NNM no. 14 (1968).

Prasad, D., Classification and Significance of the Symbols on the Silver Punch-marked Coins of Ancient India, JASB n.s. 45 (1935), 5—60.

Prasad, D., Shamiawala (Bijnor Dist.) Hoard of Silver Punch-marked Coins, JNSI 1 (1939), 1—4.

Prasad, H. K., Indo-Greek Coins of the Patna Museum, INC 2.2 (1961), 237—275.

Prawdzic-Golemberski, E. J., and Metcalf, D. M., The Circulation of Byzantine Coins on the South-Eastern Frontiers of the Empire, NC 7 ser. 3 (1963), 83—92.

Préaux, C., Esquisse d'une histoire des révolutions égyptiennes sous les Lagides, CE 11 (1936), 522—552.

Préaux, C., L'économie royale des Lagides (Bruxelles 1939).

Préaux, C., A propos des associations dans l'Égypte gréco-romaine, RIDA 1 (1948), 189—198.

Préaux, C., Une source nouvelle sur l'annexion de l'Arabie par Trajan: les papyrus de Michigan 465 et 466, Phoibos 5 (1950/51) (Mélanges Joseph Hombert), 123—139.

Préaux, C., Un Ostracon du Mons Claudianus, CE 26 (1951), 354—363.

Préaux, C., Ostraca de Pselkis de la Bibliothèque Bodléenne, CE 26 (1951), 121—155.

Préaux, C., Sur les communications de l'Éthiopie avec l'Égypte hellénistique, CE 27 (1952), 257—281.

Préaux, C., Ostraca ptolémaïques du Musée du Caire, CE 28 (1953), 109—120.

Préaux, C., Sur les origines des monopoles Lagides, CE 29 (1954), 312—327.

Préaux, C., Sur l'écriture des ostraca thébains d'époque romaine, JEA 40 (1954), 83—87.

Préaux, C., Sur les fonctions du πράκτωρ ξενικῶν, CE 30 (1955), 107—111.

Préaux, C., Les prescriptions médicales des ostraca grecs de la Bibliothèque Bodléenne, CE 31 (1956), 135—148.

Préaux, C., La stabilité de l'Égypte aux deux premiers siècles de notre ère, CE 31 (1956), 311—331.

Préaux, C., De la Grèce classique à l'Égypte hellénistique. La banque-témoin, CE 33 (1958), 243—255.

Preisigke, F., Kornfrachten im Fayam, APF 3 (1906), 44—54.

Preisigke, F., Girowesen im griechischen Ägypten, enthaltend Korngiro, Geldgiro, Girobanknotariat mit Einschluß des Archivwesens. Ein Beitrag zur Geschichte des Verwaltungsdienstes im Altertume (Strassburg 1910).

Presedo Velo, F. J., Comentario a Tacito y a Elio Aristides, Habis 2 (1971), 127—136.

Priaulx, O. de Beauvoir, On the Indian Embassies to Augustus, JRAS 17 (1860), 309—321.

Priaulx, O. de Beauvoir, On the Second Indian Embassy to Rome (Pliny Nat. Hist. VI. 24), JRAS 18 (1861), 345—361.

Priaulx, O. de Beauvoir, On the Indian Embassies to Rome from the Reign of Claudius to the Death of Justinian, I, JRAS 19 (1862), 274—298.

Priaulx, O. de Beauvoir, On the Indian Embassies to Rome, from the Reign of Claudius to the Death of Justinian, II, JRAS 20 (1863), 269—312.

Price, M. J., The Lost Year: Greek Light on a Problem of Roman Chronology, NC 7 ser. 13 (1973), 75—86.

Price, M. J., and Waggoner, N. M., Archaic Greek Silver Coinage. The 'Asyut' Hoard (London 1975).

Price, P. I., Some Roman Ostraca from Egypt, JJP 9/10 (1955/56), 159—167.

Prideaux, W. F., The Coins of the Axumite Dynasty, NC 3 ser. 4 (1884), 205—219.

Priese, K.-H., Zur Ortsliste der römischen Meroe-Expeditionen unter Nero, Meroitica 1 (1973), 123—126.

Prins, A. H. J., Uncertainties of Coastal Cultural History: the 'Ngalawa' and the 'Metepe', TNR 53 (1959), 205—213.

Prins, A. H. J., The Persian Gulf Dhows — Two Variants in Maritime Enterprise, Persica 2 (1965/66), 1—18.

Prinsep, J., On the Ancient Roman Coins in the Cabinet of the Asiatic Society, JASB 1 (1832), 392—409.

Prinsep, J., Roman Coins in Upper India, JASB 1 (1832), 476.

Prinsep, J., Description of the Coins Discovered in a Second Tope at Mánikyála, JASB 3 (1834), 564—565.

Prinsep, J., Note on the Coins Discovered by M. Court, in: J. Prinsep (ed.), Essay on Indian Antiquities, Historic, Numismatic and Palaeographic (London 1858), 141—151.

Pritsak, O., Kultur und Sprache der Hunnen, Festschr. f. D. Cyzevskyj zum 60. Geburtstag, Osteuropa-Institut an der Freien Univ. Berlin, Slavistische Veröffentlichungen, Bd. 6 (Berlin 1954), 238—249.

Pritsak, O., Die 24 Ta-ch'ên, OE 1.2 (1954), 178—202.

Pritsak, O., Xun, Der Volksname der Hsiung-nu, CAJ 5 (1959—60), 27—34.

Protase, D., Les trésors monétaires de la Dacie romaine. Leur signification sociale-économique et ethno-politique, Congresso Internazionale di Numismatica, Roma 11—16 Settembre 1961, vol. 2 (Rome 1965), 423—432.

Průšek, J., Early Nomads and the Book of Karl Jettmar, OLZ 62.7/8 (1967), 325—346.

Průšek, J., Chinese Statelets and the Northern Barbarians, 1400—300 B.C. (Prague 1971).

Ptashnikova, I. V., Busy drevnego i rannesrednevekogo Khoresma, in: Trudy Khorezmskoi arkheologicheskoi ekspeditsii, vol. 1 (Moscow 1952), 105—118.

Pugachenkova, G. A., Sosud iz Termeza s vakkhicheskoi stsenoi, VDI (1951), 1. 128—138.

Pugachenkova, G. A., Khalchaianskaia Afina, VDI (1963), 2.155—166.

Pugachenkova, G. A., and Rempel', L. I., Istoria iskusstva Uzbekistana s drevneishikh vremen do serediny deviatnadt satogo veka (Moscow 1965).

Pugachenkova, G. A., La sculpture de Khaltchayan, Iranica Antiqua 5 (1965), 116—127.

Pugachenkova, G. A., K ikonografii Geraia (O nekotorykh voprosakh rannekushanskoi istorii), VDI (1965), 1. 127—136.

PUGACHENKOVA, G. A., Khalchaian, K probleme khudozhestvennoi kul'tury Severnoi Baktrii (Tashkent 1966).

PUGACHENKOVA, G. A., O pantsirnom vooruzhenii parfianskogo i baktriiskogo voinstva, VDI (1966), 2. 27—43.

PUGACHENKOVA, G. A., Dve stupa na iuge Uzbekistana, SA (1967), 3. 257—264.

PUGACHENKOVA, G. A., K stratigrafii novyk monetnykh nakodok iz severnoi Baktrii, VDI (1967), 3. 74—88.

PUGACHENKOVA, G. A., Tron Mitridata I iz parfianskoi Nisy, VDI (1969), 1. 161—171.

PUGACHENKOVA, G. A., K interpretatsii nekotorykh pamiatnikov parfianskogo zodchestva Iuzhnogo Turkmenistana, IANTSSR (1973), 1. 17—23.

PUGACHENKOVA, G. A., Keramicheskie petsi kushanskogo vremeni v Iuzhnom Uzbekistane, SA (1973), 2. 205—215.

PUGACHENKOVA, G. A., K otkrytiiu nadpisei Kkharosthi na zolotykh predmetakh Dal'verzinskogo klada, VDI (1976), 1. 64—71.

PUGLIESE CARRATELLI, G., s. CARRATELLI, G. P.

PUKHTINS'KII, V. K., Denarii Avgusta, naidennyi v gor. Nezhine, VDI (1966), 2. 174—175.

PULLEYBLANK, E. G., A Sogdian Colony in Inner Mongolia, TP 2 ser. 41 (1952), 317—356.

PULLEYBLANK ,E. G., The Consonantal System of Old Chinese, AM n. s. 9 (1962), 58—144; 206—265.

PULLEYBLANK, E. G., Chinese and Indo-Europeans, JRAS (1966), 9—39.

PULLEYBLANK, E. G., Chinese Evidence for the Date of Kanishka, Bharati 10/11 (1966/68), 112—122.

PULLEYBLANK, E. G., Chinese Evidence for the Date of Kaniṣka, in: A. L. BASHAM (ed.), Papers on the Date of Kaniṣka (Leiden 1968), 247—258.

PURI, B. N., Economic Guilds in the Kuṣāṇa Period, IC 6.4 (1940), 421—428.

PURI, B. N., Some Aspects of Economic Life in the Kuṣāṇa Period, IC 12.1 (1945), 82—87.

PURI, B. N., The Nationality of the Kushans, in: Proc. of the International Conf. on the Hist., Arch., and Culture of Central Asia in the Kushan Period, Dushanbe Sept. 27—Oct. 6, 1968 (Moscow 1974), 182—189.

PURI, K. N., La civilisation de Mohen-Jo-Daro, thèse Univ. de Paris (Paris 1938).

PUZIKOVA, A. I., Dva kurgana iz mogil'nika skifskogo vremeni u s. Russkaia Trostianka, KSIA 102 (1964), 24—33.

QUAEGEBEUR, J., Sabatianus Aquila, épistratège de la Thébaïde (P. Oxy. XXXIV. 2708), CE 44 (1969), 130—133.

QUAN, A. G., Piper nigrum, Linn, JSSS 8.1 (1952), 8—11.

QUAN, A. G., Piper betle, Linn, JSSS 8.1 (1952), 12—15.

RABIN, Z., Dio, Herodian, and Severus' Second Parthian War, Chiron 5 (1975), 419—441.

RABINOWITZ, J., Aramaic Inscription of the Fifth Century B.C.E. from a North-Arab Shrine in Egypt, JNES 15 (1956), 1—9.

RAHARIJAONA, S., Place et intérêt du malgache dans les langues indonésiennes, BAM 38 (1960), 63—65.

RAHMANI, L. Y., Silver Coins of the Fourth Century B.C. from Tel Gamma, IEJ 21.2/3 (1971), 158—160.

RAIKES, R. L., The End of the Ancient Cities of the Indus, AmerAnthro 66.2 (1964), 284—299.

RAJAN, K. V. S., Some Interesting Coin-Data from Uparkot, Junagadh, JNSI 22 (1960), 118—122.

RAKOTOARISOA, J.-A., Madagascar — l'homme et son milieu, in: Malagache qui es-tu ?, Musée d'Ethnographie de Neuchâtel (1973), 11—23.

RAMACHANDRAN, K. S., Some Aspects of the Economy of the Indian Megalith Builders, IHQ 38.1 (1962), 60—64.

RAMACHANDRAN, T. N., Find of Puri-Kushān or Oriya-Kushān Coins from Sītabhinji, Keoñjhar Dist., Orissa, JNSI 13.1 (1951), 69—72.

RAMADAS, G., Kingdoms of the Deccan Mentioned in the Allāhābād Pillar Inscription, IHQ 1 (1925), 679—689.

Ramayya, S., The Puzzle of the Pallava Coinage and Some New Pallava Coins, JNSI 29 (1967), 22—28.

Ramayya, S., The Kalabhras and their Coinage, JNSI 35 (1973), 142—154.

Ranade, P. V., A New Silver Coin of Yajña Srī Sātakarṇi, JNSI 26.1 (1964), 98—99.

Rao, B. K. G., Megalithic Culture in South India (Prasaranga 1972).

Rao, M. R., Significance of the Chittaldurg Coins, JNSI 16 (1956), 197—204.

Rao, M. R., Some Important Sātavāhana Coins, JNSI 18.1 (1958), 43—48.

Rao, S. R., Shipping and Maritime Trade of the Indus People, Expedition 7.3 (1965), 30—37.

Rao, S. R., Kaveripattinam Excavations, TASSI 7 (1962/65), 163—166.

Rapson, E. J., The Coinage of the Mahākṣatrapas and Kṣatrapas, of Surāṣtra and Mālava (Western Kṣatrapas), JRAS (1879), 357—407.

Rapson, E. J., Ancient Silver Coins from Baluchistan, NC 4 ser. 4 (1904), 311—325.

Rapson, E. J., Notes on Indian Coins and Seals, JRAS (1905), 783—814.

Rapson, E. J., The Date of Kanishka, JRAS (1913), 911—913.

Rapson, E. J., The Numeral 40 in Inscriptions at Matharā during the Śaka and Kuṣana Period, AcOr 11.3 (1933), 260—264.

Raschke, M. G., Roman Overland Trade with India and China, CN&V 18.2 (1974), 37—47.

Raschke, M. G., Papyrological Evidence for Ptolemaic and Roman Trade with India, in: Proceedings of the XIV International Congress of Papyrologists, Oxford, 24—31 July 1974 (London 1975), 241—246.

Raschke, M. G., Roman Coins Found in India, unpublished MS. in the ANS Museum Library (New York 1975).

Raschke, M. G., An Official Letter to an Agoranomus: P. Oxy. I.170, BASP 13.1 (1976), 17—29.

Rassart, M., La Nubie Chretienne. Terre de rencontre de l'Égypte copte et de l'Éthiopie chrétienne, AIPHOS 20 (1968/72), 363—377.

Rathjens, C., Kulturelle Einflüsse in Südwest-Arabien von den ältesten Zeiten bis zum Islam unter besonderer Berücksichtigung des Hellenismus, JKF 1 (1950/51), 29—31.

Rathjens, C., Sabaeica, 3 vols., MMVH 24 and 28 (Hamburg 1953—1966).

Rau, H .G., Facettschliffbecher und die Chronologie der Spätkaiserzeit, AK 3 (1973), 441—445.

Rau, H. G., Zur Provenienzfrage spätantiker Gläser, Archäologisches Korrespondenzblatt 4 (1974), 371—377.

Rau, P. D., Prähistorische Ausgrabungen auf der Steppenseite des deutschen Wolgagebiets im Jahre 1926 (Pokrovsk 1927).

Raunig, W., Die Versuche einer Datierung des Periplus maris Erythraei, MAGW 100 (1970), 231—242.

Ray, N.-R., Early Traces of Buddhism in Burma, JGIS 6.1 (1939), 1—52; 6.2 (1939), 99—123.

Ray, S., A Note on the Chronology of the Punch-marked Coin-Hoards at Taxila (Bhir Mound), JNSI 21 (1959), 120—128.

Ray, S., The Salipur Hoard of Silver Punch-marked Coins, OHRJ 12.3 (1964), 123—127.

Ray, S., Antiquity of Gold Coinage in India, JNSI 30 (1968), 110—117.

Rea, A., Prehistoric Antiquities in Tinnevelly, ASIAnRep 1 (1902/03), 111—140.

Rea, A., Catalogue of the Prehistoric Antiquities from Adichanallur and Perumbur (Madras 1915).

Rea, J. R., A Letter of Severus Alexander?, CE 42 (1967), 391—396.

Rea, J. R., The Date of the Prefecture of Statilius Ammianus, CE 44 (1969), 134—138.

Rea, J. R., P. Wisc. 6 Revised, ZPE 12.3 (1973), 262—264.

Rea, J. R., P.S.I. IV 310 and Imperial Bullion Purchases, CE 49 (1974), 163—174.

Read, T. T., Chinese Iron — A Puzzle, HJAS 2 (1937), 398—407.

Rebuffat, R., and Marichal, R., Les Ostraca de Bu Njem, REL 51 (1973), 281—286.

Reckendorf, S., Der aramäische Teil des palmyrenischen Zoll- und Steuertarifs, ZDMG 42 (1888), 370—415.

Reece, R., Some Analyses of Late Roman Silver Coins, NC 7 ser. 3 (1963), 241—242.

Reece, R., Analyses of Some Denarii of the Later Republic and Early Roman Empire, NC 7 ser. 4 (1964), 233—234.

Reekmans, T., Economic and Social Repercussions of the Ptolemaic Copper Inflation, CE 24 (1949), 324—342.

Reekmans, T., and Van't Dack, E., A 2nd Century B.C. Petition (Bodleian Ms. Gr. Class. c [87] P), RIDA 5 (1950), 417—427.

Reekmans, T., and Van't Dack, E., A Bodleian Archive on Corn Transport, CE 27 (1952), 149—195.

Reekmans, T., Treasure-Trove and Parapherna, in: J. Bingen, G. Cambier and G. Nachtergael (eds.), Le monde grec. Pensée, littérature, histoire, documents. Hommages à Claire Préaux (Bruxelles 1975), 748—759.

Rees, L. W. B., Ancient Reservoirs near Kasr Azrak, Antiquity 3 (1929), 89—91.

Regling, K., Zur historischen Geographie des mesopotamischen Parallelogramms, Klio 1 (1901), 443—476.

Regling, K., Römische Goldmünzenfunde aus Ägypten, Berliner Münzblätter N.F. 23.9 (Sept. 1902), 137—138.

Regling, K., Römische *aurei* aus dem Funde von Karnak, in: Festschrift zu Otto Hirschfelds sechzigstem Geburtstage. Beiträge zur alten Geschichte und griechisch-römischen Alterthumskunde (Berlin 1903), 286—298.

Regling, K., Münzschatz aus Theadelphia, ZfN 29 (1912), 112—138.

Regling, K., Römischer Denarfund von Fröndenberg, ZfN 29 (1912), 189—253.

Reichelt, H., Die soghdischen Handschriftenreste des Britischen Museums, vol. 2 (Heidelberg 1931).

Reil, T., Beiträge zur Kenntnis des Gewerbes im hellenistischen Ägypten (Diss. Leipzig 1913).

Reinach, A. J., Rapport sur les fouilles de Koptos. Deuxième campagne, janvier—février 1911, Bull. soc. fr. de fouilles archéologiques 3 (1912), 47—82.

Reinach, T., Une crise monétaire au III^{e} siècle de l'ère chrétienne, BCH 20 (1896), 523—548.

Reinach, T., Du rapport de valeur des métaux monétaires dans l'Égypte au temps des Ptolémées, REG 41 (1928), 121—196.

Reinach, T., Kollybos, RN 31 (1928), 145—160.

Reinaud, J. T., Mémoire sur le commencement et la fin du royaume de la Mésène et de la Kharacène, et sur l'époque de la rédaction du Périple de la Mer Érythrée (Paris 1861).

Reinaud, J. T., Mémoire sur le Périple de la Mer Érythrée et sur la navigation des mers orientales au milieu du troisième siècle de l'ère chrétienne, MAI 24.2 (1864), 225—277.

Reinmuth, O. W., The Edict of Tiberius Julius Alexander, TAPhA 65 (1934), 248—259.

Reinmuth, O. W., The Prefect of Egypt from Augustus to Diocletian, Klio Beiheft 34 (Leipzig 1935).

Reinmuth, O. W., Two Prefectural Edicts Concerning the Publicani, CPh 31 (1936), 146—162.

Reisner, G. A., The Pyramids of Meroe and the Candaces of Ethiopia, BMFAB 21 (Feb. 1923), 12—27.

Reisner, G. A., The Meroitic Kingdom of Ethiopia: a Chronological Outline, JEA 9 (1923), 34—77; 157—160.

Reisner, G. A., Silver Goblet from Meroë, BMFAB 23 (Feb. 1925), 10.

Rémondon, R., Les dates de la révolte de C. Avidius Cassius (P. Fouad, inédit, inventaire no. 132), CE 26 (1951), 364—377.

Rémondon, R., Autour de quelques termes du P. Fouad inédit inv. no. 45, CE 27 (1952), 196—204.

Rémondon, R., Un nouveau document concernant Probus, RPh 3 ser. 28 (1954), 199—210.

Rémondon, R., A propos du papyrus d'Antinoé no. 38, CE 32 (1957), 130—146.

Rémondon, R., Notes de papyrologie. La retenue de 6,50%, RPh 3 ser. 32 (1958), 244—260.

Rémondon, R., Soldats de Byzance d'après un papyrus trouvé à Edfou, RecPap 1 (1961), 41—93.

Rémondon, R., Commerce de vins italiens à l'époque des Sévères d'après le Pap. Iandana VI.99, REG 18 (1965), xxviii—xxix.

Rémondon, R., Militaires et civils dans une campagne égyptienne du temps de Constance II, JS (1965), 132—143.

RÉMONDON, R., Le P. Vindob. inv. 25838 et les commandants militaires en Égypte au IVe siècle et au Ve, CE 40 (1965), 180—197.

RÉMONDON, R., L'Égypte au 5e siècle de notre ère: les sources papyrologiques et leurs problèmes, Atti dell'XI Congresso Internazionale di Papirologia, Milano 2—8 Sett. 1965 (Milan 1966), 135—148.

RÉMONDON, R., Un papyrus inédit des archives d'Abinnaeus (P. Berlin inv. 11624), JJP 18 (1974), 33—37.

REMUSAT, A., Histoire de la ville de Khotan (Paris 1820).

RENFREW, C., The Emergence of Civilization (London 1972).

RENTSE, A., A Historical Note on the Northeastern Malay Shores, JMBRAS 20.1 (1947), 23—40.

RENTZ, G., Pearling in the Persian Gulf, UCPSP 11 (1951), 397—402.

Report on the Administration of the Madras Presidency during the Year 1899—1900 (Madras 1900).

Report on the Administration of the Madras Presidency for the Year 1936—1937 (Madras 1938).

REUSCH, W., Zwei Diatretglas-Fragmente aus Konz und Trier, TZ 32 (1969), 295—317.

REVERE, R. B., No Man's Coast: Ports of Trade in the Eastern Mediterranean, in: K. POLANYI, C. M. ARENSBERG and H. W. PEARSON (eds.), Trade and Market in the Early Empires (New York 1957), 38—63.

REY-COQUAIS, J. R., Une nouvelle inscription de Rouad, AAS 18 (1968), 69—76.

RHODOKANAKIS, N., Ḳatabanische Texte zur Bodenwirtschaft, SAWW 194.2 (Vienna 1919).

RHODOKANAKIS, N., Ḳatabanische Texte zur Bodenwirtschaft, II, SAWW 198.2 (Vienna 1922).

RHODOKANAKIS, N., Die Bodenwirtschaft im alten Südarabien, AAWW no. 36 (Vienna 1916).

RHODOKANAKIS, N., Zur Interpretation altsüdarabischer Inschriften I, WZKM 43.1/2 (1936), 21—76.

RIABTSEVICH, V. N., Nakhodki antichnykh monet na territorii Belorussi, in: Voprosy Istorii. Sbornik stati molodykh uchenykh i aspirantov Belorusskii Universitet (Minsk 1968), 187—192.

RIBOUD, K., Les soieries Han: Aspects nouveaux dans l'étude des soieries de l'Asie Centrale, ArtsAs 17 (1968), 93—103.

RIBOUD, K., Essential Problems Concerning Central Asian Silks, JIM 25/26 (1969/70), 56—63.

RIBOUD, K., Procedures and Results of a Study: Sir Aurel Stein Textile Collection of the National Museum, New Delhi, BLCIETA 32 (1970), 24—39.

RIBOUD, K., and LUBO-LESNICHENKO, E., Nouvelles découvertes soviétiques à Oglakty et leur analogie avec les soies façonnées polychromes de Leou-lan-Dynastie Han, ArtsAs 28 (1973), 139—164.

RICCIARDI, R. V., Note sull'arte tessile sasanide, Mesopotamia 3—4 (1968/69), 386—415.

RICE, D. T., The Cave of Shapur and Sasanian Painting, BII 6.1/4—7.1 (1946), 30—34.

RICHARD, L., Un Harpocrate de bronze en provenance de Corseul, ABret 75 (1968), 203—211.

RICHMOND, I. A., The Birdoswald Hoard and its Composition, Trans. Cumberland and Westmoreland Antiquarian and Archaeological Society n. s. 54 (1959), 56—60.

RICHMOND, I. A., Palmyra under the Aegis of Rome, JRS 53 (1963), 43—54.

RICHTER, G. M. A., Silk in Greece, AJA 33 (1929), 27—33.

RICHTER, G. M. A., Greeks in Persia, AJA 50 (1946), 15—30.

RICHTER, G. M. A., The 'Achaemenian' or 'Graeco-Persian' Gems, Hesperia Supplement 8 (1949), 291—298.

RICHTER, G. M. A., Greek Subjects on 'Graeco-Persian' Seal Stones, in: Archaeologica Orientalia in Memoriam Ernst Herzfeld (New York 1952), 189—194.

RICHTER, G. M. A., Ancient Plaster Casts of Greek Metalware, AJA 62.4 (1962), 369—377.

RICHTER, G. M. A., The Sculpture and Sculptors of the Greeks (New Haven 1970).

RICKS, T., Persian Gulf Seafaring and East Africa: Ninth through Twelfth Centuries, AfrHistStud 3.2 (1970), 339—357.

RIDGEWAY, W., How Far Could the Greeks Determine the Fineness of Gold and Silver Coins ?, NC 3 ser. 15 (1895), 104—109.

RIDLEY, R. T., Notes on Julian's Persian Expedition (363), Historia 22.2 (1973), 317—330.

Ridley, R. T., The Economic Activities of the Perioikoi, Mnemosyne 4 ser. 27.3 (1974), 281—292.

Riefstahl, R. D., Notes on a Study of the Trade Routes of Central Asia, BNBC 21.1/2 (1937), 5—85.

Riek, G., and Hundt, H. J., Die Hohmichele: ein Fürstengrabhügel der späten Hallstattzeit bei der Heuneburg, Römisch-Germanische Forschungen 25 (Berlin 1962).

Ringrose, F. D., Find of Alexandrian Coins in London, NC 4 ser. 11 (1911), 357—358.

Ripinsky, M. M., The Camel in Ancient Arabia, Antiquity 49 (1975), 295—298.

Ritchie, P. D., Spectrographic Studies on Ancient Glass, Chinese Glass from pre-Han to T'ang Times, Technical Studies in the Field of Fine Arts 5 (1937), 209—220.

Ritterling, F., Zur Geschichte der *legio II Traiana* unter Traian, RhM N.F. 58 (1903), 476—480.

Roaf, M., The Subject Peoples on the Base of the Statue of Darius, CDAFI 4 (1974), 73—160.

Robert, L., Sur les affranchissements de Suse, RPh (1936), 137—152.

Robert, L., Études épigraphiques et philologiques, Bibliothèque de l'École des Hautes-Études, Sciences hist. et philol., fasc. 272 (Paris 1938).

Robert, L., Inscriptions séleucides de Phrygie et d'Iran, Hellenica 7 (1949), 5—29.

Robert, L., Inscription honorifique de Tarse, Hellenica 7 (1949), 197—205.

Robert, L., Inscription honorifique à Laodicée d'Iran (Nehavend), Hellenica 8 (1950), 73—75.

Robert, L., Philologie et géographie, II: Sur Pline l'Ancien, livre II, Anatolia 4 (1959), 1—26.

Robert, L., Épitaphes et acclamations byzantines à Corinthe, Hellenica 11/12 (1960), 21—52.

Robert, L., Inscription hellénistique d'Iran, Hellenica 11/12 (1960), 85—91.

Robert, L., Inscriptions de Didymes et de Milet, Hellenica 11/12 (1960), 440—489.

Robert, L., ΛΙΜΕΝΕΣ, Hellenica 11/12 (1960), 263—266.

Robert, L., Villes d'Asie mineure^2 (Paris 1962).

Robert, L., Noms indigènes dans l'Asie Mineure grèco-romaine, Bibliothèque archéologique et historique de l'Institut français d'archéologie d'Istanbul 13 (Paris 1963).

Robert, L., De Delphes à l'Oxus. Inscriptions grecques nouvelles de la Bactriane, CRAI (1968), 416—451.

Robertson, M., The Excavations at Al-Mina, Sueidia, IV: The Early Greek Vases, JHS 60 (1940), 2—21.

Robin, C., Monnaies provenant de l'Arabie du Nord-Est, Semitica 24 (1974), 83—125.

Robinson, D. M., and Harcum, C. G., Greek Vases in the Royal Ontario Museum (Toronto 1930).

Robinson, E. S. G., The Tell el-Mashkuta Hoard of Athenian Tetradrachms, NC 6 ser. 7 (1947), 115—121.

Robinson, E. S. G., Greek Coins from the Pyramids, NC 6 ser. 10 (1950), 298.

Robinson, E. S. G., The Coins of the Ephesian Artemision Reconsidered, JHS 21 (1951), 156—167.

Robinson, E. S. G., Punic Coins of Spain and their Bearing on the Roman Republican Series, in: R. A. G. Carson and C. H. V. Sutherland (eds.), Essays in Roman Coinage Presented to Harold Mattingly (Oxford 1956), 34—53.

Robinson, E. S. G., Carthaginian and Other South Italian Coinages of the Second Punic War, NC 7 ser. 4 (1964), 37—64.

Robinson, K. R., Zimbabwe Excavations 1958: Zimbabwe Beads, OcPapNMSR 3, no. 23A (1961), 227—235.

Robinson, K. R., Summers, R., and Whitty, A., Zimbabwe Excavations 1958: Some General Conclusions, OcPapMNSR 3, no. 23A (1961), 326—330.

Robinson, K. R., Iron Age Excavations Undertaken in Southern Malawi during 1968, Azania 4 (1969), 147—148.

Rochette, R., Deuxième supplément à la notice sur quelques médailles grecques inédites de rois de la Bactriane et de l'Inde, JS (1836), 65—83.

Rodgers, C. J., Roman Coins Found in India, NC 3 ser. 19 (1899), 263—265.

Rodinson, M., Une inscription trilingue de Palmyre, Syria 27 (1950), 138—142.

Rodinson, M., De l'archéologie à la sociologie historique. Notes méthodologiques sur le dernier ouvrage de G. Tchalenko, Syria 38 (1961), 170—200.

Röder, J., Die Diatretglasscherbe N 6211 des römisch-germanischen Museums Köln, KJVJG 6 (1962/63), 98—106.

Röder, J., Das Diatret von Köln-Braunsfeld. Optische Untersuchung an Netzfragmenten, KJVFG 7 (1964), 33—38.

Röder, J., Zur Steinbruchgeschichte des Rosengranits von Assuan, AA 80 (1965), 467—552.

Röllig, W., Der altmesopotamische Markt, Welt des Orients 8.2 (1976), 286—295.

Roesch, P., Thespi et la Confédération Béotienne (Paris 1965).

Rogers, M., China and Islam. The Archaeological Evidence in the Mashriq, in: D. S. Richards (ed.), Islam and the Trade of Asia, Papers on Islamic History 2 (Oxford 1970), 67—80.

Ronca, I., Ptolemaios Geographie 6, 9—21: Ostiran und Zentralasien, T. 1, MemIsMEO 15.1 (Rome 1971).

Rose, K. F. C., The Date and Author of the Satyricon, Mnemosyne Suppl. 16 (Leiden 1971).

Rosen-Ayalon, M., Niveaux islamiques de la 'Ville Royale', CDAFI 2 (1972), 169—185.

Rosenbaum-Alföldi, M., Die Gußformen und gegossenen Fälschungen kaiserzeitlicher Münzen, Chiron 1 (1971), 351—363.

Rosenfield, J. M., The Dynastic Arts of the Kushans (Berkeley 1967).

Rosenfield, J. M., The Mathurā School of Sculpture, in: A. L. Basham (ed.), Papers on the Date of Kaniṣka (Leiden 1968), 259—269.

Rossabi, M., The Tea and Horse Trade with Inner Asia during the Ming, JAH 4.2 (1970), 136—168.

Rossi, L. (revised by J. M. C. Toynbee), Trajan's Column and the Dacian Wars (Ithaca 1971).

Rostovtzeff, M., Anabolicum, RömMitt 11.4 (1896), 317—321.

Rostovtzeff, M., ΑΠΟΣΤΟΛΙΟΝ, MDAI(R) 12 (1897), 75—81.

Rostovtzeff, M., Das Patrimonium und die Ratio Thesaurorum, MDAI(R) 13 (1898), 108—123.

Rostovtzeff, M., Geschichte der Staatspacht in der römischen Kaiserzeit bis Diokletian, Philologus Suppl. IX.3 (1902), 331—512.

Rostovtzeff, M., Zur Geschichte des Ost- und Südhandels im ptolemäisch-römischen Ägypten, APF 4 (1907/08), 298—315.

Rostovtzeff, M., Ein Speculator auf der Reise, ein Geschäftsmann bei der Abrechnung, MDAI(R) 25 (1910), 267—283.

Rostovtzeff, M., Studien zur Geschichte des römischen Kolonates (Leipzig/Berlin 1910).

Rostovtzeff, M., Iranians and Greeks in Southern Russia (Oxford 1922).

Rostovtzeff, M., A Large Estate in Egypt in the Third Century B.C. A Study in Economic History, University of Wisconsin Studies in the Social Sciences and History 6 (Madison 1922).

Rostovtzeff, M., Une trouvaille de l'époque gréco-sarmate de Kertch, MonPiot 26 (1923), 99—160.

Rostovtzeff, M., The Animal Style in South Russia and China, Princeton Monographs in Art and Archaeology 14 (Princeton 1929).

Rostovtzeff, M., and Welles, C. B., Un contrat de prêt de l'an 121 ap. J.-C. trouvé à Doura, CRAI (1930), 158—181.

Rostovtzeff, M., and Welles, C. B., A Parchment Contract of Loan from Dura-Europos on the Euphrates, YCS 2 (1931), 1—78.

Rostovtzeff, M., Review of J. G. Tait (ed.), Greek Ostraka in the Bodleian Library at Oxford and Various Other Collections, vol. I (London 1930), Gnomon 7 (1931), 21—26.

Rostovtzeff, M., The Great Hero of Middle Asia and his Exploits, Artibus Asiae 4 (1930/32), 99—117.

Rostovtzeff, M., Foreign Commerce of Ptolemaic Egypt, JEBH 4 (1931/32), 728—769.

Rostovtzeff, M., Skythien und der Bosporus (Berlin 1931).

Rostovtzeff, M., Caravan Cities (Oxford 1932).

Rostovtzeff, M., Les inscriptions caravanières de Palmyre, Mélanges Gustave Glotz (Paris 1932), vol. 2, 793—811.

Rostovtzeff, M., Seleucid Babylonia: Bullae and Seals of Clay with Greek Inscriptions, YCS 3 (1932), 1—114.

Rostovtzeff, M., Das Mithraeum von Dura, MDAI(R) 49 (1934), 180—207.

Rostovtzeff, M., Deux notes sur des trouvailles de la dernière campagne de fouilles à Doura-Europos, CRAI (1935), 285—305.

Rostovtzeff, M., Une nouvelle inscription caravanière de Palmyre, Berytus 2 (1935), 143—168.

Rostovtzeff, M., Dura and the Problem of Parthian Art, YCS 5 (1935), 157—304.

Rostovtzeff, M., The Sarmatae and Parthians, CAH 11 (Cambridge 1936), 91—130.

Rostovtzeff, M., Kaiser Trajan und Dura, Klio 31 (1938), 285—292.

Rostovtzeff, M., Le Gad de Doura et Séleucus Nicator, in: Mélanges syriens offerts à Monsieur René Dussaud, vol. 1 (Paris 1939), 281—295.

Rostovtzeff, M., ΠΛΟΙΑ ΘΑΛΑΣΣΙΑ on the Nile, in: K. Varvaressos (ed.), Études dédiées à la mémoire d'André M. Andréadès (Athens 1940), 367—376.

Rostovtzeff, M., The Social and Economic History of the Hellenistic World, 3 vols. (Oxford 1941).

Rostovtzeff, M., Res Gestae Divi Saporis and Dura, Berytus 8.1 (1943), 17—60.

Rostovtzeff, M., The Social and Economic History of the Roman Empire, 2nd. rev. ed. by P. M. Fraser, 2 vols. (Oxford 1957).

Roth, C., The Historical Implications of the Jewish Coinage of the First Revolt, IEJ 12.1 (1962), 33—46.

Rothenberg, B., God's Wilderness: Discoveries in the Sinai (London 1961).

Rothenberg, B., An Archaeological Survey of the Sinai; First Season 1967/1968, Preliminary Report, PEQ 102 (1970), 4—29.

Rothenberg, B., Timna: Valley of the Biblical Copper Mines (London 1972).

Rougé, J., La navigation hivernale sous l'empire romain, REA 54 (1952), 316—325.

Rougé, J., Recherches sur l'organisation du commerce maritime en Méditerranée sous l'empire romain, Ports, Routes et Trafics 21 (Paris 1966).

Rougé, J. (ed.), Expositio Totius Mundi et Gentium, Sources Chrétiennes 124 (Paris 1966).

Rougé, J., Facteurs économiques de la navigation méditerranéenne sous l'empire romain, in: M. Mollat (ed.), Sociétés et compagnies de commerce en Orient et dans l'Océan Indien, Actes du 8 colloque intern. d'histoire maritime (Beyrouth 5—10 Sept. 1966), Bibliothèque générale de l'École Pratique des Hautes Études (Paris 1970), 6e sér., 133—137.

Rougé, J., Review of J. I. Miller, The Spice Trade of the Roman Empire, 29 B.C. to A.D. 641 (Oxford 1969), Latomus 29 (1970), 536—540.

Roux, J.-P., Le chameau en Asie Centrale — son nom, son élevage, sa place dans la mythologie, CAJ 5.1 (1954), 35—76.

Rowe, A., A Contribution to the Archaeology of the Western Desert, III, BJRL 38 (1955/56), 139—165.

Rowland, B., A Revised Chronology of Gandhara Sculpture, Art Bulletin 18 (1936), 387—400.

Rowland, B., The Dating of the Sasanian Paintings at Bamiyan and Dukht-i-Nushirvan, BII 6.1/4—7.1 (1946), 35—42.

Rowland, B., Gandhara, Rome and Mathura: The Early Relief Style, ACASA 10 (1956), 8—17.

Rowland, B., The Vine-Scroll in Gandhara, Artibus Asiae 19.3/4 (1956), 353—361.

Rowland, R. J., M. Porcius the Wine Merchant, Historia 18.3 (1969), 374—375.

Rowton, M. B., The Woodlands of Ancient Western Asia, JNES 26 (1967), 261—277.

Rowton, M. B., Autonomy and Nomadism in Western Asia, Orientalia 42 (1973), 247—258.

Rowton, M. B., Urban Autonomy in a Nomadic Environment, JNES 32 (1973), 201—215.

Rowton, M. B., Enclosed Nomadism, JESHO 17.1 (1974), 1—30.

Roy, S. S., A Silver Coin of Panchala Vishnumitra, JNSI 5.2 (1943), 153—154.

Roy, S. S., From the Ganga to the Volga — the History of an Ancient Trade Route, in: Studies in Asian History. Proceedings of the Asian History Congress, 1961 (Bombay 1969), 169—176.

Roy, T. N., The Dating of Local Coins on the Sites of the Godavari-Pravara System, in: A. K. Narain (ed.), Seminar Papers on the Local Coins of Northern India ca. 300 B.C. to 300 A.D., Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 2 (Varanasi 1968), 95—101.

Roy, T. N., The Bearing of the Maheswar-Navadatoli Excavations on the Chronology of the Local Coins, in: A. K. Narain (ed.), Seminar Papers on the Local Coins of Northern India ca. 300 B.C. to 300 A.D., Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 2 (Varanasi 1968), 102—104.

Rtveladze, E. V., and Runich, A. P., Nakhodki indikatsii Vizantiiskikh monet vblizi Kislovodska, VV 32 (1971), 219—222.

Rudenko, S. I., Louen Tchong-kouoyu Altai pou-lo ti kou-tai kouan-hi, KKHP (1957), 2. 37—48, cf. RBS 3 (1957), no. 411.

Rudenko, S. J., The Mythological Eagle, the Gryphon, the Winged Lion, and the Wolf in the Art of Northern Nomads, Artibus Asiae 21 (1958), 101—122.

Rudenko, S. I., Kul'tura naseleniia Tsentral'nogo Altaia v Skifskoe vremia (Moscow/Leningrad 1960).

Rudenko, S. I., Die Kultur der Hsiung-nu und die Hügelgräber von Noin Ula, Antiquitas R. 3, H. 7 (Bonn 1969).

Rudenko, S. I., Frozen Tombs of Southern Siberia, The Pazyryk Burials of Iron-Age Horsemen, translated by M. W. Thompson (Berkeley 1970).

Rudolf, A. F., Indo-Chinese Coins in the British Collection of Central Asian Antiquities, INC 3.1 (1962), 100—119 = Indian Antiquary 28 (1899), 46—56.

Rudolph, R. C., Two Recently Discovered Han Tombs, Archaeology 26.2 (1973), 106—115.

Ryckmans, G., Ši-il-kan-ni, Ši-il-ḫe-ni = arabe préislamique Slḥa? (La mention des chevaux dans les inscriptions arabes préislamiques), AOF 14 (1941/44), 54—56.

Ryckmans, G., La confession publique des pêches en Arabie Méridionale préislamique, Le Muséon 58 (1945), 1—14.

Ryckmans, G., Inscriptions sud-arabes, douzième série, Le Muséon 68 (1955), 297—312.

Ryckmans, G., Inscriptions sud-arabes, treizième série, Le Muséon 69 (1956), 139—163.

Ryckmans, G., Sud-arabe *mdbḥt* = hébreu *mzbḥ* et termes apparentés, in: E. Gräf (ed.), Festschrift Werner Caskel zum siebzigsten Geburtstag, 5. März 1966, gewidmet von Freunden und Schülern (Leiden 1968), 353—360.

Ryckmans, J., L'institution monarchique en Arabie Méridionale avant l'Islam, BdM 28 (Louvain 1951).

Ryckmans, J., Yarîm. 'Aymân II, roi de Saba?, Le Muséon 64 (1951), 133—150.

Ryckmans, J., A propos du *m'mr* sud-arabe, RES 3884bis, Le Muséon 66 (1953), 343—369.

Ryckmans, J., La chronologie sud-arabe du premier siècle avant notre ère, BiOr 10.6 (1953), 205—211.

Ryckmans, J., L'origine et l'ordre des lettres de l'alphabet éthiopien, BiOr 12.1 (1955), 2—8.

Ryckmans, J., Himyaritica I, Le Muséon 69 (1956), 91—98.

Ryckmans, J., Aspects nouveaux du problème thamoudéen, StIs 5 (1956), 5—17.

Ryckmans, J., Petits royaumes sud-arabes d'après les auteurs classiques, Le Muséon 70 (1957), 75—96.

Ryckmans, J., Review of A. van den Branden, Les textes thamoudéens de Philby, vol. 1: Inscriptions du Sud, vol. 2: Inscriptions du Nord (Louvain 1956), BiOr 17.3/4 (1960), 199—204.

Ryckmans, J., Les '*Hierodulenlisten*' de Ma'în et la colonisation Minéenne, in: J. D. Gembloux (ed.), Scrinium Lovaniense, Mélanges historiques — Historische opstellen Étienne van Cauwenbergh, Université Catholique de Louvain, Recueil de travaux d'histoire et de philologie, 4 ser., fasc. 24 (Louvain 1961), 51—61.

Ryckmans, J., La chronologie des rois de Saba et Ḏū-Raydān, Uitgaven van het Nederlands Historisch-archaeologisch Instituut te Istanbul 16 (Istanbul 1964).

Ryckmans, J., Chronologie des rois de Saba et dū-Raydān, OA 3 (1964), 67—90.

Ryckmans, J., Himyaritica (2), Le Muséon 79 (1966), 475—500.

Ryckmans, J., De quelques dynasties sud-arabes, Le Muséon 80 (1967), 269—300.

RYGDYLOV, E. R., Kitaiskie znaki i nadpisi na arkheologicheskikh predmetakh s Enisia, EV 5 (1951), 113—120.

RYPKA, J., et al., History of Iranian Literature (Dordrecht 1968).

SACCONI, A., La mirra nella preparazione degli unguenti profumati a Cnosso, Athenaeum 47 (1964), 281—289.

SACHAU, E., Über den Palmyrenischen νόμος τελωνικός, ZDMG 37 (1883), 562—571.

SACHAU, E., Die Chronik von Arbela. Ein Beitrag zur Kenntnis des ältesten Christentums im Orient, APAW no. 6 (Berlin/Leipzig 1915), 5—94.

SACHS, E. B., Notes on the Weaves of a Group of Silk Fabrics from the Burial Mounds of Noin-Ula Now in the Pennsylvania Museum of Art, Philadelphia, BNBC 20.1/2 (1936), 74—78.

SACHSSE, E., Die römische Straße durch die Sinaihalbinsel nach der Peutingerschen Tafel, ZDPV 51.4 (1928), 265—268.

SÄVE-SÖDERBERGH, T., Ägypten und Nubien, ein Beitrag zur Geschichte altägyptischer Außenpolitik (Lund 1941).

SÄVE-SÖDERBERGH, T., Preliminary Report of the Scandinavian Joint Expedition, Archaeological Investigations between Faras and Gemai, November 1961—March 1962, Kush 11 (1963), 47—69.

SAFAR, F., Inscriptions from Wadi Hauran, Sumer 20 (1964), 9—27.

SAFAR, F., The Lords and Kings of Hatra, Sumer 29.1/2 (1973), 87—98.

SAHI, M. D. N., The Bearing of Excavations on the Chronology of Mathura Coins, in: A. K. NARAIN (ed.), Seminar Papers on the Local Coins of Northern India ca. 300 B.C. to 300 A.D., Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 2 (Varanasi 1968), 62—66.

SAHI, M. D. N., The Bearing of Excavations on the Early History of the Audumbaras, in: A. M. SHASTRI (ed.), Coinage of the Satavahanas and Coins from Excavations (Nagpur 1972), 125—127.

SAHNT, D. R., Three Mathura Inscriptions and their Bearing on the Kushana Dynasty, JRAS (1924), 399—406.

ST. MARIN, D., Il foedus romano con Callatis, Epigraphica (1948), 104—130.

SALDERN, A. VON, Ancient Glass in Split, JGS 6 (1914), 42—46.

SALDERN, A. VON, Achaemenid and Sassanian Cut Glass, Ars Orientalis 5 (1963), 7—16.

SALETORE, B. A., Across the Oceanic Frontier of Kannataka, JIH 39 (1961), 211—223.

SALETORE, B. A., Ptolemy and Western India, JIH 40 (1962), 41—84.

SALLES, G., Nouveaux documents sur les fouilles de Châpour: IV^{me} et V^{me} campagnes, RAA 13 (1939—1942), 93—100.

SALMAN, I., The Iraqi Archaeological Expeditions, Sumer 29.1/2 (1973), b—j.

SALMONY, A., Eine chinesische Schmuckform und ihre Verbreitung in Eurasien, ESA 9 (1934), 323—335.

SALMONY, A., The Archaeological Background of Textile Production in Soviet-Russian Territory, BNBC 26.2 (1942), 4—13.

SAL'NIKOV, A. G., Zolotye monety Lisimakha iz sobraniia Odesskogo arkheologicheskogo muzeia, SA (1960), 4. 171—173.

SAMI, A., Kushan in the Days of the Sassanian Empire according to the Pahlavi Inscriptions of Naksh-i-Rustam, in: Proceedings of the International Conference of the History, Archaeology and Culture of Central Asia in the Kushan Period, vol. 2 (Moscow 1975), 146—153.

SAMOLIN, W., The Turkisation of the Tarim Basin up to the Qara-Qytuy: Preliminary Survey of the Problems Involved (Ph. D. diss. Columbia, unpublished, 1953).

SAMOLIN, W., Ethnographic Aspects of the Archaeology of the Tarim Basin, CAJ 4.1 (1958), 44—67.

SAMOLIN, W., Hsiung-nu, Hun, Turk, CAJ 3 (1957/58), 143—150.

SAMUEL, A. E., Six Papyri from Hamilton College, JJP 13 (1961), 33—51.

SANDARS, N. K., Orient and Orientalizing in Early Celtic Art, Antiquity 45 (1971), 103—112.

Sandelowsky, B. H., Kapako, an Early Iron Age Site on the Okavango River, South West Africa, SAJS 69 (1973), 325.

Sander, E., Zur Rangordnung des römischen Heeres: Die Flotten, Historia 6 (1957), 347—367.

Sander, E., Das Recht des römischen Soldaten, RhM N.F. 101 (1958), 152—191, 193—234.

Sanders, H. A., The Origin of the Third Cyrenaic Legion, AJPh 62 (1941), 84—87.

Sanford, E. M., Nero and the East, HSCPh 48 (1937), 75—103.

Sanie, S., L'onomastique orientale de la Dacie romaine, Dacia 14 (1970), 233—241.

Sanie, S., Inscriptio bilinguis tibicensis: A. Pars palmyrena, Dacia 14 (1970), 405—409.

Sankalia, H. D., The Antiquity of Glass Bangles in India, BDCRI 8.3/4 (1947), 252—259.

Sankalia, H. D., and Dikshit, M. G., Excavations at Brahmapuri (Kolhapur) 1945—1946 (Poona 1952).

Sankalia, H. D., Coins and Glass Seal from Maheshwar Excavations, 1953, JNSI 15.2 (1953), 197—204.

Sankalia, H. D., and Deo, S. B., Report on the Excavations at Nasik and Jorwe, 1950—1951 (Poona 1955).

Sankalia, H. D., Imported Mediterranean Amphorae from Kolhapur, JRAS (1957), 207—208.

Sankalia, H. D., Subbarao, B., and Deo, S. B., The Excavations at Maheshwar and Navdatoli 1952—1953 (Poona 1958).

Sankalia, H. D., Deo, S. B., Ansari, Z. D., and Ehrhardt, S., From History to Pre-History at Nevasa 1954—1956 (Poona 1960).

Sankalia, H. D., Deo, S. B., and Ansari, Z. D., Excavations at Ahar (Tambavati), Deccan College Building Centenary and Silver Jubilee Series 45 (Poona 1969).

Sarasin, A., Die Seidenstraßen von China nach dem römischen Kaiserreich, Sinologica 1 (1948), 96.

Sarkar, K. K., Mahāyāna Buddhism in Fu-nan, SIS 5.1 (1955), 69—75.

Sarma, I. K., Vijayapuri — the Capital of Ikṣvākus of Nāgārjunakoṇḍa, IHQ 38.4 (1962), 267—282.

Sarma, I. K., Regional Distribution, Sequence, Chronology and Historical Significance of the Satavahana Coinage, in: A. M. Shastri (ed.), Coinage of the Satavahanas and Coins from Excavations (Nagpur 1972), 75—102.

Sarma, I. K., A Coin Mould-Piece from Nāgārjunakoṇḍa Excavations, JESHO 16.1 (1973), 89—106.

Sarre, F., Die Ausgrabungen von Samarra, vol. 2: Die Keramik von Samarra, Forschungen zur islamischen Kunst, herausgegeben von Friedrich Sarre, 2 (Berlin 1925).

Sarton, G., Chinese Glass of the Beginning of the Confucian Age, Isis 25 (1936), 73—79.

Sartre, M., Inscriptions inédites de l'Arabie romaine, Syria 50 (1973), 223—233.

Sartre, M., Note sur la première légion stationnée en Arabie romaine, ZPE 13.1 (1974), 85—89.

Šašel, J., Trajan's Canal at the Iron Gate, JRS 63 (1973), 80—85.

Sassoon, H., Engaruka: Excavations during 1964, Azania 1 (1966), 79—99.

Sastri, K. A. N., The Colas, vol. 1 (Madras 1935).

Sastri, K. A. N., L'origine de l'alphabet du Champa, BEFEO 35.2 (1935), 233—241.

Sastri, K. A. N., Notes on the Historical Geography of the Malay Peninsula and Archipelago, JGIS 7.1 (1940), 15—42.

Sastri, K. A. N., Takuapa and its Tamil Inscription, JMBRAS 22.1 (1949), 25—30.

Sato, Taketoshi, Chūgoku kodai no shikki kōg yō, Jimbun kenkyū 9 (1958), 1244—1285; cf. RBS (1958), no. 437.

Sato, Takeloshi, Shunjū Sengoku jidai no seitetsugyō, Chūgoku kodaishi kenkyū (1960), 103—125; cf. RBS (1960), no. 67.

Satzinger, H., Urkunden der Blemmyer, CE 43 (1968), 126—132.

Saxena, K. S., Kuṣāṇa Rule in Kashmir, BMAUP 3 (1969), 42—46.

Sauneron, S., and Yoyotte, I., La campagne nubienne de Psammétique II et sa signification historique, BIFAO 50 (1952), 157—207.

Sayce, A. H., The Greeks in Babylonia: Graeco-Cuneiform Texts, PSBA 24 (1902), 120—125.

Sayce, A. H., A Greek Inscription of a King (?) of Axum Found at Meroë, PSBA 31 (1909), 189—203.

Sayce, A. H., Karian, Egyptian, and Nubian-Greek Inscriptions from the Sudan, PSBA 32 (1910), 261—268.

Sayre, E. V., and Smith, R. W., Some Materials of Glass Manufacturing in Antiquity, in: M. Levey (ed.), Archeological Chemistry: A Symposium (Philadelphia 1967), 279—311.

Scaglia, G., Central Asians on a Northern Ch'i Gate Shrine, Artibus Asiae 21 (1958), 9—28.

Scaife, C. H. D., Two Inscriptions at Mons Porphyrites (Gebel Dokhan), Univ. of Egypt, Bull. of the Faculty of Arts 3.2 (1935), 58—104.

Scaife, C. H. D., Further Notes on Myos Hormos and Tadnos Fons, Univ. of Egypt, Bull. Fac. of Arts, 4.1 (1936), 63—72.

Scaife, C. H. D., The Origin of Some Pantheon Columns, JRS 43 (1953), 37.

Scanlon, G. T., Egypt and China: Trade and Imitations, in: D. S. Richards (ed.), Islam and the Trade of Asia (Oxford 1970), 81—95.

Scanlon, G. T., Fusṭāṭ Expedition: Preliminary Report 1968, JARCE 11 (1974), 81—91.

Scerrato, U., On a Silver Coin of Traianus Decius from Afghanistan, E&W n. s. 13.1 (1962), 17—23.

Scerrato, U., Excavations at Dahan-i Ghulaman (Seīstan-Iran), First Preliminary Report (1962—1963), E&W n. s. 16.1/2 (1966), 9—30.

Schaal, H., Vom Tauschhandel zum Welthandel (Leipzig/Berlin, 1931).

Schafer, E. H., The Camel in China down to the Mongol Dynasty, Sinologica 2.3 (1950), 165—192.

Schafer, E. H., Iranian Merchants in T'ang Dynasty Tales, UCPSP 11 (1951), 403—422.

Schafer, E. H., The Pearl Fisheries of Ho-p'u, JAOS 72 (1952), 155—165.

Schafer, E. H., Rosewood, Dragon's Blood, and Lac, JAOS 77 (1957), 129—136.

Schafer, E. H., The Vermilion Bird. T'ang Images of the South (Berkeley 1967).

Schafer, E. H., Shore of Pearls (Berkeley/London 1970).

Schauenburg, K., Die Cameliden im Altertum, BJ 155/156 (1955/56), 59—94.

Schiff, A., Inschriften aus Schedia (Unterägypten), in: Festschrift zu Otto Hirschfelds sechzigstem Geburtstage. Beiträge zur alten Geschichte und griechisch-römischen Alterthumskunde (Berlin 1903), 373—390.

Schileico, W. G., Ein babylonischer Weihtext in griechischer Schrift, AfO 5 (1928/29), 11—13.

Schippmann, K., Dastagird, BAIPU 1 (1969), 43—47.

Schippmann, K., Notizen zu einer Reise in den Bachtiaribergen, AMI N.F. 3 (1970), 231—237.

Schlingloff, D., Cotton-Manufacture in Ancient India, JESHO 17 (1974), 81—90.

Schlingloff, D., Kalyanakarin's Adventures. The Identification of an Ajanta Painting, Artibus Asiae 38.1 (1976), 5—28.

Schlobies, H., Hellenistisch-römische Denkmäler in Südarabien, FuF 10 (1934), 242—243.

Schlumberger, D., Le développement urbain de Palmyre, Berytus 2 (1935), 149—162.

Schlumberger, D., Neue Ausgrabungen in der Syrischen Wüste, AA 50 (1935), 595—633.

Schlumberger, D., Reflexions sur la loi fiscale de Palmyre, Syria 18 (1937), 271—297.

Schlumberger, D., L'inscription d'Hérodien. Remarques sur l'histoire des princes de Palmyre, BEO 9 (1942/45), 35—50.

Schlumberger, D., Les gentilices romains de Palmyréniens, BEO 9 (1942/45), 53—82.

Schlumberger, D., [Report on the Find of a Sherd with a Greek Inscription at Tepe Nimlik], CRAI (1947), 241—242.

Schlumberger, D., La prospection archéologique de Bactres (Printemps 1947), Rapport sommaire, Syria 26 (1949), 173—190.

Schlumberger, D., La Palmyrène du Nord-Ouest, BAH 49 (Paris 1951).

Schlumberger, D., Robert, L., and Dupont-Sommer, A., Une bilingue gréco-araméenne d'Asoka, JA 246 (1958), 1—48.

Schlumberger, D., Surkh Kotal, Antiquity 33 (1959), 81—86.

Schlumberger, D., Descendants non-méditerranéens de l'art grec, Syria 37 (1960), 131—166; 253—318.

Schlumberger, D., Palmyre et la Mésène, Syria 38 (1961), 256—260.

Schlumberger, D., Le Temple de Surkh Kotal en Bactriane (IV), JA 252 (1964), 303—326.

Schlumberger, D., La representation frontale dans l'art des Sassanides, in: La Persia e il mondo greco-romano, Accademia Nazionale dei Lincei, anno 363 (1966), Quaderno n. 76, 383—393.

SCHLUMBERGER, D., Une seconde inscription grecque d'Asoka, CRAI (1969), 126—140.

SCHLUMBERGER, D., Les quatre tribus de Palmyre, Syria 48 (1971), 121—133.

SCHLUMBERGER, D., Le Rhyton de Kohna Masdjid, ArstAs 24 (1971), 3—7.

SCHMALZRIEDT, E., Material und Methode: Systematisches zum Problem der falschen Münzen antiker Zeit, StudGen 13.5 (1960), 299—312.

SCHMIDT, A., Drogen und Drogenhandel im Altertum (Inaug.Diss. Bonn, Köln 1924).

SCHMIDT, C., Eine griechische Grabinschrift aus Antinoë, in: Aegyptiaca, Festschrift G. Ebers (Leipzig 1897), 99—106.

SCHMIDT, C., Manichäische Handschriften der Staatlichen Museen Berlin, vol. I (Stuttgart 1940).

SCHMIDT, E. F., The Treasury of Persepolis and Other Discoveries in the Homeland of the Achaemenians. The Oriental Institute of the University of Chicago, Oriental Institute Communications no. 21 (Chicago 1939).

SCHMIDT, H. J., Alte Seidenstoffe (Braunschweig 1958).

SCHMIDT, P. R., An Investigation of Early and Late Iron Age Cultures through Oral Tradition and Archaeology: An Interdisciplinary Case Study in Buhaya, Tanzania, Ph.D. diss. Northwestern University (1974), Xerox Univ. microfilm no. 48106.

SCHMIDT, P. R., A New Look at Interpretations of the Early Iron Age in East Africa, HA 2 (1975), 127—136.

SCHMITT, H. H., Untersuchungen zur Geschichte Antiochos des Großen und seiner Zeit, Historia Einzelschriften 6 (Wiesbaden 1964).

SCHMITTER, M. TH., Chine ou Proche Orient?, RA 6 ser. 13 (1937), 73—102.

SCHNUR, H. C., The Economic Background of the *Satyricon*, Latomus 18 (1959), 790—799.

SCHÖNBAUER, E., Beiträge zur Geschichte des Bergbaurechts, Münchener Beiträge zur Papyrusforschung und antiken Rechtsgeschichte H. 12 (Munich 1929).

SCHÖNBAUER, E., Rechtshistorische Urkundenstudien zum griechischen Recht im Zweistromlande, APF 12. 3/4 (1937), 195—217.

SCHÖNERT-GEISS, E., Die Wirtschafts- und Handelsbeziehungen zwischen Griechenland und der nördlichen Schwarzmeerküste im Spiegel der Münzfunde (6.—1. Jh. v. u. Z.), Klio 53 (1971), 105—117.

SCHÖNERT-GEISS, E., Torgovo-ekonomicheskie sviari Severnogo prichenomor'ia s Gretsiei i ikh otrazhenie v materiale monetnykh nakhodok (VI—I vv. do n. e.), VDI (1971), 3. 25—35.

SCHÖNERT-GEISS, E., Die Geldzirkulation Attikas, Klio 56 (1974), 377—414.

SCHOFF, W. H., The Transcontinental Silk Trade at the Christian Era, Num. & Ant. Soc. of Philadelphia, Proc. (1913), 47—64.

SCHOFF, W. H., Proposed Identifications of Two South-Indian Place-Names in the Periplus, JRAS (1913), 130—133.

SCHOFF, W. H., The Name of the Erythraean Sea, JAOS 33 (1913), 349—362.

SCHOFF, W. H., Parthian Stations of Isidore of Charax: An Account of the Overland Trade Route between the Levant and India in the First Century B.C. (Philadelphia 1914).

SCHOFF, W. H., The Eastern Iron Trade of the Roman Empire, JAOS 35 (1915), 224—239.

SCHOFF, W. H., As to the Date of the Periplus, JRAS (1917), 827—830.

SCHOFF, W. H., Early Communication between China and the Mediterranean, Paper read at the American Philosophical Society on April 21 (Philadelphia 1921).

SCHOFIELD, J. F., Finds of Ancient Coins in Southern Africa, SAMAB 2.15 (1942), 383—385.

SCHOFIELD, W., Report on Ancient Beads Found near Hong Kong, Proceedings of the Third Congress of Prehistorians of the Far East, Singapore 24 Jan.—30 Jan. 1938 (Singapore 1940), 306—312.

SCHOTT, E., Ein Stempelsiegel in Form eines Elefanten, MDAI(K) 27.1 (1971), 99—110.

SCHREIBER, G., Das Volk der Hsien-pi zur Han-Zeit, MS 12 (1942), 145—203.

SCHREIBER, G., The History of the Former Yen Dynasty, MS 14 (1949/1955), 374—480.

SCHREIBER, T. (E. SIEGLIN, ed.), Die Nekropole von Kôm-esch-Schukâfa, Expedition Ernst Sieglin, Ausgrabungen in Alexandria, vol. 1 (Leipzig 1908).

SCHREIDEN, J., Les entreprises navales du roi Solomon, AIPHOS 13 (1953), 587—590.

SCHUBART, W., Spuren politischer Autonomie in Ägypten unter den Ptolemäern, Klio 10.1 (1910), 41—71.

SCHUBART, W., Oikogenia, in: Raccolta di Scritti in Onore di Giacomo Lumbroso (1844—1925), (Milan 1925), 49—67.

SCHUBART, W., Zum Edikt des Tiberius Iulius Alexander, APF 14 (1941), 36—43.

SCHUERMANS, H., Monnaies égyptiennes recueillies ou trouvées en Belgique, RBN 5 ser. 6 (1874), 186—195.

SCHULZE, W., Zur Geschichte Lateinischer Eigennamen, Abh. Göttingen N.F. V 5 (Göttingen 1904, repr. Berlin 1966).

SCHUMAN, V. B., Three Accounting Terms of Roman Egypt, CPh 44.4 (1949), 236—239.

SCHUMAN, V. B., The Basis of Accounting Practices in the Karanis Tax Rolls, Aegyptus 32 (1952), 241—252.

SCHUMAN, V. B., The Seven-obol Drachma of Roman Egypt, CPh 47.4 (1952), 214—218.

SCHUMAN, V. B., Pour le versement à Alexandrie, CE 38 (1963), 315—317.

SCHUMAN, V. B., Issuance of Tax Receipts in Roman Egypt, CE 38 (1963), 306—314.

SCHUMAN, V. B., The Income of the Office of the ΠΡΑΚΤΟΡΕΣ ΑΡΓΥΡΙΚΩΝ of Karanis, A.D. 172—173, BASP 12.1 (1975), 23—58.

SCHUR, W., Die Orientpolitik des Kaisers Nero, Klio Beiheft 15 (Leipzig 1923).

SCHUR, W., Zur neronischen Orientpolitik, Klio 20 (1926), 1—8.

SCHWANBECK, E. A., Über den Periplus des Erythräischen Meeres, RhM N.F. 7.3 (1850), 321—369; 7.4 (1851), 481—511.

SCHWARTZ, J., Note sur la famille de Philon d'Alexandrie, AIPHOS 13 (1953), 591—602.

SCHWARTZ, J., Les Palmyréniens et l'Égypte, BSRAA 40 (1953), 67—81.

SCHWARTZ, J., Deux ostraca de la region du wādi Hammāmāt, CE 31 (1956), 118—123.

SCHWARTZ, J., La circulation monétaire dans l'Égypte du IV^{e} siècle, SM 9 (1959), 11—17, 40—44.

SCHWARTZ, J., L'empire romain, l'Égypte, et le commerce oriental, Annales (ESC) (1960), 18—44.

SCHWARTZ, J., En marge du dossier d'Apollonios le stratège, CE 37 (1962), 348—358.

SCHWARTZ, J., L. Domitius Domitianus et *epigraphé*, CE 38 (1963), 149—155.

SCHWARTZ, J., La monnaie d'Alexandrie et la réforme de Dioclétien, SM 13/14 (1963/64), 98—102.

SCHWARTZ, J., L'Histoire Auguste et la fable de l'usurpateur Celsus, AC 33 (1964), 419—430.

SCHWARTZ, J., Réflexions sur les tétradrachmes d'Alexandrie au premier siècle p.C., CE 41 (1966), 371—379.

SCHWARTZ, J., Die Rolle Alexandrias bei der Verbreitung orientalischen Gedankenguts, ZPE 1 (1967), 197—217.

SCHWARTZ, J., L'Égypte à la fin du IIIe s.p.C. et son historiographie, BFS 46 (1967), 294—303.

SCHWARTZ, J., Autour du dossier de Paniskos, Aegyptus 48 (1968), 110—115.

SCHWARTZ, J., Nouveaux aperçus sur l'Égypte au temps de Marc-Aurèle (161—180), AncSoc 4 (1973), 191—197.

SCHWARTZ, J., Sur quelques trésors du 4e siècle, SM 24 (1974), 45—48.

SCHWARZ, W., Die Inschriften des Wüstentempels von Redesiye, Jahrb. f. class. Philol. 153 (1896), 145—170.

SCHWEINFURTH, G., and WILCKEN, U., Zur Topographie der Ruinenstätte des alten Schet (Krokodilopolis-Arsinoë), Zeitschrift d. Gesellschaft f. Erdkunde zu Berlin 22.1 (1887), 54—73.

SCHWEINFURTH, G., Die Steinbrüche am Mons Claudianus in der östlichen Wüste Ägyptens, Zeitschr. d. Ges. f. Erdkunde zu Berlin 32 (1897), 1—22.

SCHWEIZER, F., and FRIEDMAN, A. M., Comparison of Methods of Analysis of Silver and Gold in Silver Coins, Archaeometry 14.1 (1972), 103—107.

SCULLARD, H. H., Hannibal's Elephants, NC 6 ser. 8 (1948), 158—168.

SCULLARD, H. H., From the Gracchi to Nero (London 1963).

SCULLARD, H. H., The Elephant in the Greek and Roman World (Ithaca 1974).

SEAGER, R., Tiberius (Berkeley 1972).

SEGAL, J. B., Pagan Syriac Monuments in the Vilayet of Urfa, AnSt 3 (1953), 97—119.

SEGAL, J. B., Some Syriac Inscriptions of the 2nd—3rd Century A.D., BSOAS 16 (1954), 13—36.

SEGAL, J. B., Edessa. The Blessed City (Oxford 1970).

SEGAL, J. B., The Saqqara Papyri. The Aramaic Papyri, in: Proceedings of the XIV International Congress of Papyrologists, Oxford, 24—31 July 1974, Graeco-Roman Memoirs 61 (London 1975), 252—255.

SEGALL, B., The Problem of Phoenician Artisans in Egypt. An Early Hellenistic Earring, JWAG 9 (1946), 97—101.

SEGALL, B., Sculpture from Arabia Felix, the Hellenistic Period, AJA 59.3 (1955), 207—214.

SEGALL, B., The Arts and King Nabonidus, AJA 59.4 (1955), 315—318.

SEGRÈ, A., Metrologia e circolazione monetaria degli Antichi (Bologne 1928).

SEGRÈ, A., Inflation and its Implication in Early Byzantine Times, Byzantion 15 (1940/41), 249—279.

SEGRÈ, A., The Ptolemaic Copper Inflation, ca. 230—140 B.C., AJPh 63 (1942), 174—192.

SEGRÈ, A., Papirologia e Numismatica: A.I.P. Beatty Panop. e la moneta dell'età di Diocleziano e di Costantino, CE 40 (1965), 189—205.

SELB, W., Zur Bedeutung des syrisch-römischen Rechtsbuches, MBPAR 49 (Munich 1964).

SELB, W., Römisches Recht und östlich geprägte Gegebenheiten, JÖBG 14 (1965), 35—50.

SELIGMAN, C. G., Some Aspects of the Hamitic Problem in the Anglo-Egyptian Sudan, JRAI 43 (1913), 593—705.

SELIGMAN, C. G., RITCHIE, P. D., and BECK, H. C., Early Chinese Glass from pre-Han to T'ang Times, Nature 138 (1936), 721.

SELIGMAN, C. G., The Roman Orient and the Far East, Antiquity 11 (1937), 5—30.

SELIGMAN, C. G., and BECK, M. C., Far Eastern Glass: Some Western Origin, BMFEA 10 (1938), 1—64.

SELLWOOD, D. G., The Parthian Coins of Gotarzes I, Orodes I and Sinatruces, NC 7 ser. 2 (1962), 73—89.

SELLWOOD, D. G., A Die-Engraver Sequence for Later Parthian Drachmes, NC 7 ser. 7 (1967), 13—28.

SEN, A. C., Chinese Pilgrims in Ancient India, IAC 6 (1958), 271—275.

SENART, E., The Inscriptions in the the Caves at Kārlē, EpInd 7 (1902/03), 47—74.

SENART, E., The Inscriptions in the Caves at Nasik, EpInd 8 (1905/06), 54—96.

SERJEANT, R. B., Maritime Customary Law of the Arabian Coasts, in: M. MOLLAT (ed.), Sociétés et compagnies de commerce en Orient et dans l'Océan Indien, Actes du 8e Colloque Intern. d'Histoire Maritime (Beyrouth 5—10 Sept. 1966), Bibliothèque générale de l'École Pratique des Hautes Études (Paris 1970), 6e sec., 195—207.

SERRUYS, H., A Note on China's Northern Frontier, MS 28 (1969), 442—461.

SESHADRI, M., Thirthahalli Hoard, Annual Report of the Mysore Archaeological Dept. for the Years 1947—1956 (Mysore 1964), 54—60.

SESHADRI, M., Roman Contacts with South India, Archaeology 19.3 (1966), 244—247.

SESTON, W., Le Roi Sassanide Narsès, les Arabes et le Manichéisme, Mélanges syriens offerts à M. R. Dussaud (Paris 1939), vol. 2, 227—234.

SESTON, W., and EUZENNAT, M., Un dossier de la chancellerie romaine: la *Tabula Banasitana*, Étude de diplomatique, CRAI (1971), 468—490.

SETH, H. C., The Kingdom of Khotan under the Mauryas, IHQ 15 (1939), 389—402.

SETHE, K., Dodekaschoinos, das Zwölfmeilenland an der Grenze von Ägypten und Nubien (Leipzig 1901).

SETHE, K., Die historische Bedeutung des 2. Philä-Dekrets aus der Zeit des Ptolemaios Epiphanes, ZAS 53 (1917), 35—49.

SETON-WILLIAMS, M. V., The Tell El-Farâ'in Expedition, 1968, JEA 55 (1969), 5—22.

SEWELL, R., Roman Coins Found in India, JRAS (1904), 591—637.

SEYRIG, H., Antiquités syriennes: 8. Trois bas-reliefs religieux de type palmyrénien, Syria 13 (1932), 258—266.

SEYRIG, H., Antiquités syriennes: 9. L'incorporation de Palmyre à l'Empire romain, Syria 13 (1932), 266—277.

Seyrig, H., Antiquités syriennes: 12. Textes relatifs à la garnison romaine de Palmyre, Syria 14 (1933), 152—168.

Seyrig, H., Inscription relative au commerce maritime de Palmyre, Mélanges F. Cumont, AIPHOS 4.1 (Bruxelles 1936), 397—402.

Seyrig, H., Antiquités syriennes: 32. Ornamenta Palmyrena antiquiora, Syria 21 (1940), 277—328.

Seyrig, H., Antiquités syriennes: 36. Le Statut de Palmyre, Syria 22 (1941), 155—175.

Seyrig, H., Antiquités syriennes: 37. Postes romaines sur la route de Médine, Syria 22 (1941), 219—223.

Seyrig, H., Antiquités syriennes: 38. Inscriptions grecques de l'agora de Palmyre, Syria 22 (1941), 223—270.

Seyrig, H., Antiquités syriennes: 41. Nouveaux monuments palmyréniens de Baalshamin, Syria 26 (1949), 29—35, 35—41 (appendix on inscriptions by J. Starcky).

Seyrig, H., Palmyra and the East, JRS 40 (1950), 1—7.

Seyrig, H., Antiquités syriennes: 47. Antiquités de Beth-Maré, Syria 28 (1951), 101—123.

Seyrig, H., Trésor monétaire de Nisibe, RN 5 ser. 17 (1955), 85—128.

Seyrig, H., Antiquités syriennes: 66. Sur trois inscriptions du Hedjaz, Syria 34 (1957), 259—261.

Seyrig, H., Antiquités syriennes: 76. Caractères de l'histoire d'Émèse, Syria 36 (1959), 184—192.

Seyrig, H., Le monnayage de Ptolémais en Phénicie, RN 6 ser. 4 (1962), 27—50.

Seyrig, H., Les fils du roi Odainat, AAS 13 (1963), 159—172.

Seyrig, H., Un portrait de Tibère, RN 6 ser. 10 (1968), 175—178.

Seyrig, H., Antiquités syriennes: 89. Les dieux armés et les arabes en Syrie, Syria 47 (1970), 77—112.

Seyrig, H., Antiquités syriennes: 90. Sur un bas-relief de Tanq-i Sarvak, Syria 47 (1970), 113—116.

Seyrig, H., Antiquités syriennes: 92. Séleucus I et la fondation de la monarchie syrienne, Syria 47 (1970), 290—311.

Seyrig, H., Antiquités syriennes: 93. Bêl de Palmyre, Syria 48 (1971), 89—100.

Seyrig, H., Le prétendu fondouq palmyrénien de Coptes, Syria 49 (1972), 120—125.

Seyrig, H., Trésors du levant anciens et nouveaux, BAH 94 (Paris 1973).

Shafer, R., Linguistics in History, JAOS 67 (1947), 296—305.

Shafer, R., Languages of Ancient Khotan, ArchOr 29 (1961), 35—52.

Shafer, R., Place Names in Khotanī Saka, MS 26 (1967), 445—454.

Shaffer, G. S., and Hoffman, M. A., The Kushano-Sasanian Cemetery, Afghanistan 24.2/3 (1971), 138—166.

Shaked, S., Some Legal and Administrative Terms of the Sasanian Period, AcIr 2 ser. 2 (1975) = Monumentum H. S. Nyberg, vol. 2, 213—225.

Sharma, G., and Negi, J., The Saka-Kushans in the Central Ganga Valley (Mainly a Review of New Data from Kausambi), in: Proceedings of the International Conference of the History, Archaeology and Culture of Central Asia in the Kushan Period, vol. 2 (Moscow 1975), 15—41.

Sharma, R. C., Pre-Kaniṣka Buddhist Iconography at Mathura, BMAUP 5/6 (1970), 16—25.

Sharma, R. C., New Inscriptions from Mathura, BMAUP 8 (1971), 24—29.

Sharma, Y. D., Exploration of Historical Sites, AI 9 (1953), 116—169.

Sharp, A., Ancient Voyages in the Pacific (Harmondsworth 1957).

Shastri, A. M., Silver Coinage of the Satavahanas, in: D. C. Sircar (ed.), Early Indian Indigenous Coins (Calcutta 1971), 113—119.

Shastri, A. M., A Unique Coin of Sātakarṇi from Pauni, JNSI 35 (1973), 106—112.

Shastri, A. M., Note on a Yaudheya Seal, JNSI 36 (1974), 114—118.

Shatzman, I., Senatorial Wealth and Roman Politics, Collection Latomus 142 (Bruxelles 1975).

Shaw, T., Radiocarbon Dating in Nigeria, JHSN 4 (1968), 453—465.

Shaw, T., Archaeology in Nigeria, Antiquity 43 (1969), 187—199.

Shchukin, M. B., K istorii nizhnego podneprov'ia v pervye veka nashei ery, AS 12 (1970), 54—67.

SHELOV, D. B., Denezhnyi rynok Tanaisa, ZOAO 34 (1960), 133—136.

SHELOV, D. B., Itogi arkheologicheskogo izucheniia Tanaisa, KSIA 100 (1965), 79—85.

SHEPHERD, D. G., Persian Textile of the Sasanian Period, BCMA 38.6 (1951), 145—146.

SHEPHERD, D. G., and HENNING, W. B., Zandaniji Identified, in: R. ETTINGHAUSEN (ed.), Aus der Welt der islamischen Kunst, Festschrift für E. Kühnel zum 75. Geburtstag am 26. 10. 1957 (Berlin 1959), 15—40.

SHERK, R. K., An Epitaph in the Museum at Alexandria, GRBS 5 (1964), 295—304.

SHERK, R. K., Roman Geographical Exploration and Military Maps, in: H. TEMPORINI (ed.), ANRW II.1 (Berlin–New York 1974), 534—562.

SHERWIN-WHITE, A. N., Procurator Augusti, PBSR 15 (1939), 11—26.

SHERWIN-WHITE, A. N., The Letters of Pliny (Oxford 1966).

SHERWIN-WHITE, A. N., The Roman Citizenship^2 (Oxford 1973).

SHIBA YOSHINOBU, Commercialization of Farm Products in the Sung Period, Acta Asiatica 19 (1970), 77—96.

SHIFMAN, I. SH., Zametki po epigrafike pal'miry, PalSb 25 (1974), 87—94.

SHIGEMATSU, SHUNSHŌ, Bukkyō Tōzen shoki no kyōkai to sono Tōryū no ichi daidōki shigematsu sensei koki kinen kyūshū daigaku Tōyōshi ronsō (Fukuoha 1957), 1—17, cf. RBS 3 (1957), no. 839.

SHILOV, V. P., Kalinovskii kurgannyi mogil'nik, MIA 60 (1959), 323—523.

SHINAJA, P., A Coin Hoard from Choche, Mesopotamia 2 (1967), 105—133.

SHINNIE, P. L., Excavations at Tanqasi, 1953, Kush 2 (1954), 66—85.

SHINNIE, P. L., The Fall of Meroë, Kush 3 (1955), 82—85.

SHINNIE, P. L., A Gold Statuette from Jebel Barkal, Kush 7 (1959), 91—92.

SHINNIE, P. L., Socotra, Antiquity 34 (1960), 100—110.

SHINNIE, P. L., A Late Latin Inscription, Kush 9 (1961), 284—286.

SHINNIE, P. L., Meroë. A Civilization of the Sudan (New York/Washington 1967).

SHINNIE, P. L., Excavations at Meroe, Meroitic Newsletter 5 (1970), 17—19.

SHIRATORI, K., Sur l'origine des Hiong-nou, JA 202 (1923), 71—81.

SHIRATORI, K., A Study on Su-t'ê or Sogdiana, MTB 2 (1928), 81—145.

SHIRATORI, K., A Study of T'iao-chih, MTB 15 (1956), 1—23.

SHIRATORI, K., Chinese Ideas Reflected in the Ta-ch'in Accounts, MTB 15 (1956), 25—72.

SHIRATORI, K., The Geography of the Western Region, Studied on the Basis of the Ta-ch'in Accounts, MTB 15 (1956), 73—163.

SHIRATORI, K., A New Attempt at the Solution of the Fu-lin Problem, MTB 15 (1956), 165—329.

SHIRATORI, K., On the Ts'ung-ling Traffic Route Described by C. Ptolemaeus, MTB 16 (1957), 1—34.

SHORE, A. F., The Demotic Inscription on a Coin of Artaxerxes, NC 7 ser. 14 (1974), 5—8.

SHORTO, H. L., The 32 *myos* in the Medieval Mon Kingdom, BSOAS 26.3 (1963), 572—591.

SHOTTER, D. C. A., A Time-Table for the 'Bellum Neronis', Historia 24.1 (1975), 59—74.

SHUTLER, R., JR., Peopling of the Pacific in the Light of Radiocarbon Dating, AP 5 (1961), 201—212.

SIAO, TSEN-TSAN, Die chinesische Seidenindustrie (Diss. Leipzig 1929).

SICARD, H. VON, The Ancient Sabi-Zimbabwe Trade-Route, NADA 40 (1963), 6—16.

SIGISMUND, R., Die Aromata in ihrer Bedeutung für Religion, Sitten, Gebräuche, Handel und Geographie des Alterthums bis zu den ersten Jahrhunderten unserer Zeitrechnung (Leipzig 1884).

SIJPESTEIJN, P. J., Der ΠΟΤΑΜΟΣ ΤΡΑΙΑΝΟΣ, Aegyptus 42. 3/4 (1962), 70—83.

SIJPESTEIJN, P. J., Trajan and Egypt, in: E. BOSWINKEL, P. W. PESTMAN and P. J. SIJPESTEIJN, Studia Papyrologica Varia (Leiden (1965), 106—113.

SIJPESTEIJN, P. J., A New Document Concerning Hadrian's Visit to Egypt, Historia 18 (1969), 109—118.

SIJPESTEIJN, P. J., Zwei Torzollquittungen, ZPE 6.1 (1970), 78—84.

SIJPESTEIJN, P. J., Einige Ostraka der Gießener Ostrakasammlung, JJP 16/17 (1971), 99—104.

SIJPESTEIJN, P. J., Eine weitere Torzollquittung aus der Amsterdamer Papyrussammlung, ZPE 7.1 (1971), 45—46.

SIJPESTEIJN, P. J., Edict of C. Calvisius Statianus (P. Amsterdam inv. Nr. 22; cf. pl. IIc), ZPE 8.2 (1971), 186—192.

SIJPESTEIJN, P. J., Letters on Ostraca, TAΛANTA 5 (1973), 72—84.

SIJPESTEIJN, P. J., Macrinus' Damnatio Memoriae und die Papyri, ZPE 13.3 (1974), 219—227.

SIJPESTEIJN, P. J., Fourteen Ostraca from a Private Collection, ZPE 14.3 (1974), 229—239.

SIJPESTEIJN, P. J., Receipts for Various Taxes, Penthemeros Certificates and Customs House Receipts, in: A. E. HANSON (ed.), Collectanea Papyrologica. Texts Published in Honour of H. C. YOUTIE, vol. 1, Papyrologische Texte und Abhandlungen 19 (Bonn 1976), 287—303.

SILBERMANN, H., Die Seide (Dresden 1897).

SIMKIN, C. G. F., The Traditional Trade of Asia (London 1968).

SIMON, D., Die byzantinischen Seidenzünfte, BZ 68.1 (March 1975), 23—46.

SIMON, W., Zur Rekonstruktion der altchinesischen Endkonsonanten, MSOS 31.1 (1928), 175—204.

SIMONETTA, A. M., An Essay on the So-Called Indo-Greek Coinage, E&W n. s. 8 (1957), 44—66.

SIMONETTA, A. M., Notes on the Parthian and Indo-Parthian Issues of the First Century B.C., Actes, Congrès International de Numismatique, July 6—11, 1953 (Paris 1957), vol. 2, 111—121.

SIMONETTA, A. M., Note di numismatica partica: Vonone II, Vologese I e Vardane II, RIN 5 ser. 60 (1958), 3—10.

SIMONETTA, A. M., A New Essay on the Indo-Greeks, the Sakas and the Pahlavas, E&W n. s. 9 (1958), 154—183.

SIMONETTA, A. M., La monetazione indo-partica ed il suo significato per la cronologia dei Kushana, RIN 73 (1971), 33—56.

SIMONETTA, A. M., The Indo-Parthian Coinage and its Significance in the Chronology of the Kushans, in: Proc. of the International Conf. on the Hist., Arch. and Culture of Central Asia in the Kushan Period, Dushanbe Sept. 27—Oct. 6, 1968 (Moscow 1974), 283—288.

SIMONETTA, B., Tetradramma di Mithradate II e di 're ignoto'? Osservazioni sulle monete coniate fra il 90 ed il 70 a. C., RIN 4 ser. 22 (1974), 115—137.

SIMONYI, D., Sull'origine del toponimo 'Quinque ecclesiae' di Pecs, AAntHung 8 (1960), 165—184.

SIMPSON, A. D., The Departure of Crassus for Parthia, TAPhA 69 (1938), 532—541.

SINGH, P., The Stratigraphic Position of Uninscribed Cast Coins, in: A. K. NARAIN (ed.), Seminar Papers on the Local Coins of Northern India ca. 300 B.C. to 300 A.D., Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 2 (Varanasi 1968), 105—119.

SINGH, S. D., Iron in Ancient India, JESHO 5 (1962), 212—216.

SINGH, S. P., Numismatic Evidence of Kushana-Murunda Rule in Eastern India, JNSI 35 (1973), 127—141.

SINGH, U. V., Eran — a Chalcolithic Settlement, BAIHA 1 (1967), 29—38.

SINGHAL, C. R., A Hoard of Gupta Gold Coins Found in Gujarāt, JNSI 15.2 (1953), 196—197.

SINHA, K. K., The Chronology of Early Cast Coins, in: A. K. NARAIN (ed.), Seminar Papers on the Local Coins of Northern India ca. 300 B.C. to 300 A.D., Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 2 (Varanasi 1968), 66—69.

SINITSYN, T. V., K materialam po Sarmatskoi kul'ture na territorii Nishnego Povolzh'ia, SA 8 (1946), 73—95.

SINITSYN, I. V., Drevnic pamiatnik y nizov'iakh Eruslana, MIA 78 (1960), 10—167.

Sinkiang-Uighur-Antonomous-Region-Museum, Report on the Ka-la and Cho-ku Tombs in Turfan, Wen-wu (1972), 1.8—19 (in Chinese).

SINKO, T., Die Descriptio orbis terrae, eine Handelsgeographie aus dem 4. Jahrhundert, Archiv f. lat. Lexicographie 13 (1904), 531—571.

SINOR, D., Horse and Pasture in Inner Asian History, OE 19. 1/2 (1972), 171—183.

SIRCAR, D. C., Date of the Earliest Sanskrit Inscription of Campā, JGIS 6. 1 (1939), 53—55.

SIRCAR, D. C., Date of the Earliest Sanskrit Inscription of Campā, IHQ 17.1 (1941), 107—110.

Sircar, D. C., Some Facts about the Indian Mint and Money during the Late Medieval Period, JNSI 7 (1945), 78—87.

Sircar, D. C., Date of the Periplus, IHQ 39. 1/2 (1963), 138—142.

Sircar, D. C., The Problem of the Punch-marked Coins, in: A. K. Narain and L. Gopal (eds.), Seminar Papers on the Chronology of the Punch-marked Coins, Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 1 (Varanasi 1966), 155—158.

Sircar, D. C., Ancient Indian Coin Hoards, in: D. C. Sircar (ed.), Early Indian Indigenous Coins (Calcutta 1971), 147—153.

Sircar, D. C., Eastern India and the Kushans, in: Proceedings of the International Conference of the History, Archaeology and Culture of Central Asia in the Kushan Period, vol. 2 (Moscow 1975), 7—14.

Siroux, M., Takht-é Rustam et Takht-é Kaikā'ūs, Athar-é Iran 3 (1938), 93—110.

Siroux, M., Masdjid-é Sulaimân, Athar-é Iran 3 (1938), 157—160.

Siroux, M., Caravanserails d'Iran et petites constructions routières, MémIFAO 81 (Cairo 1949).

Sitholey, B. S., The Origin of Samudragupta's Standard Type Coin, JNSI 10.1 (1948), 64—71.

Sitholey, B. S., The Art of Gupta Coins, JNSI 10.2 (1948), 119—131.

Skeat, T. C., The Epistrategus Hippalos, APF 12 (1937), 40—43.

Skeat, T. C., A Fragment on the Ptolemaic Perfume Monopoly, JEA 52 (1966), 179—180.

Skowronek, S., On the Problems of the Alexandrian Mint, Travaux du Centre d'Archéologie Méditerranéenne de l'Academie Polonaise des Sciences, vol. 4 (Warsaw 1967).

Slicher von Bath, B. H., The Agrarian History of Western Europe A.D. 500—1850 (London 1963).

Smelser, N. J., Mechanisms of Change and Adjustment to Changes, in: W. E. Moore and B. F. Hoselitz (eds.), Industrialization and Society, Proceedings of the North American Conference on the Social Implications of Industrialization and Technological Change, Chicago 1960 (Paris 1963), 32—54.

Smilenko, A.T., Glodos'ki skarbi (Kiev 1965), (Ukrainian with English rés.).

Smirnov, K. F., Sarmatskie plemena Severngo Prikaspia, KSIIMK 34 (1950), 97—104.

Smirnov, K. F., Vooruzhenie Savromatov, MIA 101 (Moscow 1961).

Smirnov, K. F., Savromaty (Moscow 1964).

Smirnova, O. I., Sogd (K istorii izucheniia strany i o zadachakh ee issledovaniia), PalSb 21 (1970), 121—150.

Smith, H. F. C., The Transfer of the Capital of Kush from Napota to Meroe, Kush 3 (1955), 20—25.

Smith, R. H., Pella of the Decapolis (Wooster 1973).

Smith, R. W., The Significance of Roman Glass, BMMA 8.2 (Oct. 1949), 49—60.

Smith, S., Bronze Lion's Head from Najran, S. Arabia, BMQ 11 (1936/37), 154—156.

Smith, V. A., Graeco-Roman Influence on the Civilization of Ancient India, JASB 58 (1889), 107—201.

Smith, V. A., The Kushan, or Indo-Scythian, Period of Indian History B.C. 165 to A.D. 320, JRAS (1903), 1—64.

Smith, V. A., The Indo-Parthian Dynasties, ZDMG 60 (1906), 49—72.

Smith, V. A., The Sakas in Northern India, ZDMG 61 (1907), 403—421.

Smith, V. A., The Date of Kanishka, JRAS (1913), 939—942.

Smith, V. A., The Oxford History of India, from the Earliest Times to the End of 1911^2 (Oxford 1923).

Smith, W. S., The Land of Punt, JARCE 1 (1962), 59—61.

Snowden, F. M., The Negro in Classical Italy, AJPh 68 (1947), 266—292.

Snowden, F. M., Blacks in Antiquity. Ethiopians in the Greco-Roman Experience (Cambridge, Mass. 1970).

Soekmono, R., A Geographical Reconstruction of Northeastern Central Java and the Location of Medang, Indonesia 4 (1967), 2—7.

Sölch, J., Bithynische Städte im Altertum, Klio 19 (1925), 165—188.

Sørensen, P., Archaeological Excavations in Thailand, 2: Ban Kao (Copenhagen 1967).

Sørensen, P., Prehistoric Iron Implements from Thailand, AP 16.2 (1973), 128—173.

Sohoni, S. V., Nahapāna's Portrait — A Study, INC 2.2 (1961), 276—278.

Solheim, W. G., II, Jar Burial in the Babuyan and Batanes Islands and in the Central Philippines, and its Relationship to Jar Burial Elsewhere in the Far East, PJS 89 (1960), 115—149.

Solheim, W. G., II, Formosan Relationships with Southeast Asia, AP 7 (1963), 251—260.

Solheim, W. G., II, Indonesian Culture and Malagasy Origins, Taloha 1 (1965), 33—42.

Solheim, W. G., II, Recent Archaeological Discoveries in Thailand, in: W. G. Solheim (ed.), Archaeology at the Eleventh Pacific Science Congress. Papers presented at the XI Pacific Science Congress, Tokyo, August—September 1966, Asian and Pacific Archaeology Series no. 1 (Honolulu 1967), 47—54.

Solheim, W. G., II, Molds for Bronze Casting Found in Northeastern Thailand, JSS 55 (1967), 87—90.

Solheim, W. G., II, Southeast Asia and the West, Science 157 (1967), 896—902.

Solheim, W. G., II, Early Bronze in Northeastern Thailand, CA 9.1 (1968), 59—62.

Solheim, W. G., II, Prehistoric Archaeology in Eastern Mainland Southeast Asia and the Philippines, AP 13 (1970), 47—58.

Solheim, W. G., II, The 'New Look' of Southeast Asian Prehistory, JSS 60.1 (1972), 1—20.

Sollberger, E., Graeco-Babyloniaca, Iraq 24 (1962), 63—72.

Sommarström, B., Archaeological Researches in the Edsen-Gol Region, Inner Mongolia, The Sino-Swedish Expedition, Publication 39 and 41, VII. Archaeology 8 and 9, 2 vols. (Stockholm 1957—1958).

Soper, R. C., Northern Liang and Northern Wei in Kansu, Artibus Asiae 21 (1958), 131—164.

Soper, R. C., Kwale: An Early Iron Age Site in South-Eastern Kenya, Azania 2 (1967), 1—17.

Soper, R. C., Radiocarbon Dating of 'Dimple-Based Ware' in Western Kenya, Azania 4 (1969), 148—153.

Soper, R. C., and Golden, B., An Archaeological Survey of Mwanza Region, Tanzania, Azania 4 (1969), 15—79.

Soper, R. C., A General Review of the Early Iron Age of the Southern Half of Africa, Azania 6 (1971), 5—37.

Soper, R. C., Early Iron Age Pottery Types from East Africa: Comparative Analysis, Azania 6 (1971), 39—52.

Soper, R. C., New Radiocarbon Dates for Eastern and Southern Africa, JAH 15.2 (1974), 175—192.

Sorokin, S. S., O datirovke i tolkovanii Kenkol'skogo Mogil'nika, KSIIMK 64 (1956), 3—14.

Sorokin, S. S., Novyi Pamiatnik VII—V vv. do n.c. na Iuzhnom Altae, SA (1969), 2. 249—252.

Sorokin, S. S., Tsepochka kurganov vremeni Pannikh Kochevnikov na Pravom Beregu Kok-su Iuzhnyi Altai, AS 161 (1974), 62—91.

Sorokina, N. P., Stekliannye sosudy iz Tanaisa, MIA 127 (Moscow 1965), 202—248.

Sors, A., Fouilles et découvertes à Càpdenac-Uxellodunum, Archéologia 6 (1965), 68—74.

Sosnovskii, G. P., Raskopki Il'movoi padi (Predvarit. soobshchenie), SA 8 (1946), 51—67.

Souen, Tō-hai, and Tch'en, Houei, Ho-pei Che-kia-tchouang che Che-tchouang ts'ouen Tchan-kouo yi-tche ti fa-kiue, KKHP (1951), 1. 87—91, cf. RBS 3 (1957), no. 440.

Southall, A., The Problems of Malagasy Origins, in: H. N. Chittick and R. I. Rotberg (eds.), East Africa and the Orient. Cultural Syntheses in Pre-Colonial Times (New York/London 1975), 192—215.

Speidel, M. P., Arabia's First Garrison, ADAJ 16 (1971), 111—112.

Speidel, M. P., Numerus Syrorum Malvensium. The Transfer of a Dacian Unit to Mauretania and its Implications, Dacia n.s. 17 (1973), 169—177.

Speidel, M. P., The Pay of the Auxilia, JRS 63 (1973), 141—147.

Sperber, D., Numismatics and Halacha, INJ 2. 1/2 (1964), 16—18.

Sperber, D., Costs of Living in Roman Palestine, JESHO 8 (1965), 248—271; 11 (1968), 233—274; 13 (1970), 1—15.

Sperber, D., Gold and Silver 'Standards'. A Study in Rabbinic Attitudes to Roman Coinage, NC 7 ser. 8 (1968), 83—109.

Sperber, D., New Light on the Problem of Demonetization in the Roman Empire, NC 7 ser. 10 (1970), 111—115.

Sperber, D., Trends in Third Century Palestinian Agriculture, JESHO 15 (1972), 227—255.

Spiegelberg, W., Die ägyptischen Namen für das Rote Meer, ZÄS 66 (1930), 37—39.

Spiegelberg, W., Eine neue Erwähnung eines Aufstandes in Oberägypten in der Ptolemäerzeit, ZÄS 65 (1930), 53—57.

Spooner, B., Notes on the Toponymy of the Persian Makran, in: C. E. Bosworth (ed.), Iran and Islam in Memory of the late Vladimir Minorsky (Edinburgh 1971), 517—533.

Spooner, B., The Status of Nomadism as a Cultural Phenomenon in the Middle East, JAAS 7 (1972), 122—131.

Sprengling, M., Kartīr Founder of Sasanian Zoroastrianism, AJSLL 57.2 (1940), 197—228.

Sprengling, M., From Kartīr to Shahpuhr I, AJSLL 57.3 (1940), 330—340.

Sprengling, M., Shahpuhr I, the Great on the Kaabah of Zoroaster (KZ), AJSLL 57.4 (1940), 341—429.

Sprengling, M., Pahlavi Notes, AJSLL 58.2 (1941), 169—176.

Sprengling, M., Third Century Iran. Sapor and Kartīr (Chicago 1953).

Srivastava, B., Economic Significance of Roman Coins Found in India, JNSI 26 (1964), 222—227.

Srivastava, B., The Bearing of Trade and Commerce on the Origin of Punch-marked Coins, in: A. K. Narain and L. Gopal (eds.), Seminar Papers on the Chronology of the Punch-marked Coins, Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 1 (Varanasi 1966), 130—135.

Srivastava, V. N., Two Image Inscriptions from Mathura, EpInd 37.4 (1967), 151—154.

Srivastava, B., The Economic Background of the Post-Mauryan Currency, in: A. K. Narain (ed.), Seminar Papers on the Local Coins of Northern India ca. 300 B.C. to 300 A.D., Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 2 (Varanasi 1968), 165—168.

Srivastava, C. S., Kuṣāṇa Hoards of Treasure Trove Coins from Uttar Pradesh (1941—42 to 1969—70), BMAUP 3 (1969), 48—68.

Srivastava, A. K., A Hoard of Kuṣāṇa Gold Coins from Jaupur District, BMAUP 4 (1969), 27—30.

Srivastava, A. K., Kuṣāṇa Gold Coins from Unnao District, BMAUP 5/6 (1970), 31—33.

Srivastava, A. K., Findspots of Kushana Coins in U.P., BMAUP 8 (1971), 37—43.

Srivastava, C. S., Treasure Trove Hoards, BMAUP 10 (1972), 74—76.

Starcky, J., Appendice: Les Inscriptions, Syria 26 (1949), 35—44.

Starcky, J., Palmyre, L'Orient ancien illustré 7 (Paris 1952).

Starcky, J., Un contrat nabatéen sur papyrus, RB 71 (1954), 161—181.

Starcky, J., Inscriptions palmyréniennes conservées au Musée de Beyrouth, BMB 12 (1955), 29—44.

Starcky, J., Inscriptions archaïques de Palmyre, in: Studi orientalistici in onore di Giorgio Levi della Vida, vol. 2, Pubblicazioni dell'Istituto per l'Oriente no. 52 (Rome 1956), 509—528.

Starcky, J., Une inscription palmyrénienne trouvée près de l'Euphrate, Syria 40 (1963), 47—55.

Starcky, J., Petra et la Nabatène, Supplément au Dictionaire de la Bible fasc. 39 (Paris 1964), 886—1017.

Starcky, J., Nouvelle épitaphe nabatéenne donnant le nom sémitique de Petra, RB 72.1 (1965), 95—97.

Starcky, J., and Strugnell, J., Pétra: deux nouvelles inscriptions nabatéennes, RB 73.2 (1966), 236—247.

Starcky, J., Une inscription nabatéenne de l'an 18 d'Arétas IV, in: Hommages à Dupont-Sommer (Paris 1971), 151—159.

Stark, F., An Exploration in the Hadhramaut and Journey to the Coast, GJ 93 (1939), 1—17.

STARK, J. K., Personal Names in Palmyrene Inscriptions (Oxford 1971).

STARR, C. G., The Roman Imperial Navy, 31 B.C.—A.D. 324, Cornell Studies in Classical Philology 26 (Ithaca 1941, repr. 1960).

STARR, C. G., Coastal Defense in the Roman World, AJPh 64 (1943), 56—70.

STAVISKII, B. IA., BOL'SHAKOV, O. G., and MONCHAOSKAIA, E. A., Piandzhikentskii nekropol, in: Trudy Tadzhikskoi Arkheologicheskoi Ekspeditsii, vol. 3, MIA 37 (Moscow/Leningrad 1953), 64—98.

STAVISKII, B. IA., O dvukh pamiatnikakh sogdiiskogo izobrazitel'nogo iskusstva, KSIIMK 61 (1956), 63—64.

STAVISKII, B. IA., Notes on Gem-Seals with Kushāṇa Cursive Inscriptions in the Collection of the State Hermitage, JNSI 22 (1960), 102—108.

STAVISKII, B. IA., O severnykh granitsakh kushanskogo gosudarstva, VDI (1961), 1. 108—114.

STAVISKII, B. IA., Sredniaia Aziia, Indiia, Rim, in: V.V. STRUVE, Indiia v drevnosti (Moscow 1964), 166—187.

STAVISKII, B. IA., Osnovnye itogi raskopok Kara-Tepe v 1961—1962, in: Kara-Tepe: buddiiskii peshchernyi monastyr' v Starom Termeze (Moscow 1964), 7—61.

STAVISKII, B. IA., Raskopki v Starom Termeze v 1963—1964gg., SGE 27 (1966), 86—87.

STAVISKII, B. IA., Raskopki buddhiiskikh kompleksov na Kara-Tepe v Starom Termeze, AO (1966/67), 311—312.

STAVISKII, B. IA., Raskopki Kara-Tepe: buddiiskogo kul'tovogo tsentra kashanskogo Termeza, AO (1967/68), 337—338.

STAVISKII, B. IA., The Capitals of Ancient Bactria, E&W n.s. 23. 3/4 (1973), 265—277.

STEIN, A., Der römische Ritterstand. Ein Beitrag zur Sozial- und Personengeschichte des römischen Reiches, Münchener Beiträge zur Papyrusforschung und antiken Rechtsgeschichte 10 (Munich 1927).

STEIN, A., Die Präfekten von Ägypten in der römischen Kaiserzeit, Diss. Bern, ser. 1, fasc. 1 (Bern 1950).

STEIN, M. A., SIR, Ancient Khotan: Detailed Report of Archaeological Explorations in Chinese Turkestan (Oxford 1907), 2 vols.

STEIN, M. A., SIR, Ruins of Desert Cathay: Personal Narrative of Explorations in Central Asia and Westernmost China (London 1912), 2 vols.

STEIN, M. A., SIR, Serindia: Detailed Report of Explorations in Central Asia and Westernmost China (Oxford 1921), 4 vols.

STEIN, M. A., SIR, Central-Asian Relics of China's Ancient Silk Trade, TP 2 ser. 20 (1921), 130—141.

STEIN, M. A., SIR, La traversée du désert par Hiuan-Tsang en 630 ap. J.-C., TP 2 ser. 20 (1921), 332—351.

STEIN, M. A., SIR, Innermost Asia: Its Geography as a Factor in History, GJ 65.5 (1925), 377—403; 65.6 (1925), 473—501.

STEIN, M. A., SIR, Innermost Asia: Detailed Report of Exploration in Central Asia, Kan-su and Eastern Iran (Oxford 1928), 3 vols.

STEIN, M. A., SIR, An Archaeological Tour in the Ancient Persis, Iraq 3.2 (1936), 111—225.

STEIN, M. A., SIR, Archaeological Reconnaissances in North-Western India and South-Eastern Iran (London 1937).

STEIN, M. A., SIR, Une recente exploration en Transjordanie, CRAI (1939), 262—268.

STEIN, M. A., SIR, Old Routes of Western Iran (London 1940).

STEIN, M. A., SIR, Surveys on the Roman Frontier in Iraq and Trans-Jordan, GJ 95 (1940), 428—438.

STEIN, M. A., SIR, The Ancient Trade Route past Hatra and its Roman Posts, JRAS (1941), 299—316.

STEIN, O., Indien in den griechischen Papyri, in: M. WINTERNITZ and O. STEIN (eds.), Indologica Pragensia I (1929), 34—57.

STEIN, O., Yavanas in Early Indian Inscriptions, IC I (1935), 343—357.

STEIN, R. A., Remarques sur les mouvements du taoïsme politico-religieux au II^{e} siècle ap. J.-C., TP 2 ser. 50 (1963), 1—78.

STERN, R., Les ivoires et os découverts à Begram, leur place dans l'évolution de l'art de l'Inde, in: J. HACKIN (ed.), Nouvelles recherches archéologiques à Begram, MDAFA 11 (Paris 1954), 17—57.

STEUER, R. O., Myrrhe und Stakte, Schriften der Arbeitsgemeinschaft der Ägyptologen und Afrikanisten in Wien 4 (Wien 1933).

STILL, J., Roman Coins Found in Ceylon, JCBRAS 19 (1907), 161—188.

STILLMAN, N. A., The Eleventh Century Merchant House of Ibn 'Awkal, JESHO 16.1 (1973), 15—88.

STOLTE, R. H., The Roman Emperor Valerian and Sapor I, King of Persia, RSA 1 (1971), 157—162.

STRAUS, J. A., Le pays d'origine des esclaves de l'Égypte romaine, CE 46 (1971), 363—366.

STRELKOV, A. S., Zurmala ili Katta-Tiupe okolo Termeza, in: Kul'tura Vostoka, vol. 1 (Moscow 1927), 27—30.

STRELKOV, A. S., Les monuments préislamiques de Termez, Artibus Asiae 4 (1931), 216—224.

STRONACH, D., La statue de Darius le Grand découverte à Suse, CDAFI 4 (1974), 61—72.

STRONG, D. E., Greek and Roman Silver Plate (London 1966).

STROUD, R. S., An Athenian Law on Silver Coinage, Hesperia 43.2 (1974), 157—188.

STROUX, J., Das historische Fragment des Papyrus 40 der Mailänder Sammlung, SDAW (1952), 2.1—24.

STRUCK, B., Rhapta, Prasum Menuthias. Ein Beitrag zur Ptolemäusforschung und zur Kulturgeographie Ostafrikas, Zeitschrift d. Gesellschaft f. Erdkunde zu Berlin (1921), 188—196.

STRUVE, W., Zum Töpferorakel, in: Raccolta di Scritti in Onore di Giacomo Lumbroso (1844—1925), (Milan 1925), 273—281.

STRZYGOWSKI, J., Seidenstoffe aus Ägypten im Kaiser-Friedrich-Museum. Jahrbuch der königlichen Preuss. Kunstsammlungen 24 (1903), 147—178.

STUHLMANN, E., Beiträge zur Kulturgeschichte von Ostafrika (Berlin 1909).

STUTTERHEIM, W., The Meaning of the Kala-Makara Ornament, IAL 3 (1929), 27—52.

SU CHIH-CHING, Notes on Chia Pu hih People in Hou Han Shu, JSSS 6.1 (1950), 1—6.

SUBBARAO, B., Baroda through the Ages (Baroda 1953).

SUBRAHMANYAM, B. R., Salihundam, A Buddhist Site in Andhra Pradesh, Andhra Pradesh Government Archaeological series no. 17 (Hyderabad 1964).

SUBRAHMANYAM, B. R., Appearance and Spread of Iron in India — an Appraisal of Archaeological Data, JOIB 13.4 (1964), 349—357.

SULLIVAN, M., Excavations in Kedah and Province Wellesley, 1957, JMBRAS 31.1 (1958), 188—219.

SUMMERS, R., The Southern Rhodesian Iron Age, JAH 2.1 (1961), 1—13.

SUMMERS, R., and ROBINSON, K. R., Zimbabwe Excavations 1958: Introduction, OcPapNMSR 3, no. 23A (1961), 157—158.

SUMMERS, R., The Iron Age of Southern Rhodesia, CA 7.4 (1966), 463—469.

SUNDERMANN, W., Mani in India, in: Proceedings of the International Conference of the History, Archaeology and Culture of Central Asia in the Kushan Period, vol. 2 (Moscow 1975), 153—157.

SUSINI, G., L'iscrizione di un classiario ravennate ad Eleusi, Epigraphica 29.1/4 (1967), 173—174.

SUTHERLAND, C. H. V., The State of the Imperial Treasury at the Death of Domitian, JRS 25 (1935), 150—162.

SUTHERLAND, C. H. V., Overstrikes and Hoards: The Movement of Greek Coinage down to 400 B.C., NC 6 ser. 2 (1942), 1—18.

SUTHERLAND, C. H. V., *Aerarium* and *Fiscus* during the Early Empire, AJPh 66 (1945), 151—170.

SUTHERLAND, C. H. V., Diocletian's Reform of the Coinage: Chronological Note, JRS 45 (1955), 116—118.

SUTHERLAND, C. H. V., The Intelligibility of Roman Imperial Coin Types, JRS 49 (1959), 46—55.

Sutherland, C. H. V. Some Political Notions in Coin Types between 294 and 313, JRS 53 (1963), 14—20.
Sutherland, C. H. V., Diocletian's Extension of the 'Latin' Follis to Egypt: The Date and Sequence of Issues, Congresso Internazionale di Numismatica Roma 11—16 Settembre 1961, vol. 2 (Rome 1965), 341—346.
Sutherland, C. H. V., and Kraay, C. M., Catalogue of Coins of the Roman Empire in the Ashmolean Museum I: Augustus (c. 31 B.C.—A.D. 14), (Oxford 1975).
Sutton, J. E. G., The Archaeology and Early Peoples of the Highlands of Kenya and Northern Tanzania, Azania 1 (1966), 37—58.
Sutton, J. E. G., The Interior of East Africa, in: P. L. Shinnie (ed.), The African Iron Age (Oxford 1971), 142—182.
Sutton, J. E. G., New Radiocarbon Dates for Eastern and Southern Africa, JAH 13.1 (1972), 1—24.
Svoronos, J. N., Τὰ Νομίσματα τοῦ Κράτους τῶν Πτολεμαίων, 2 vols. (Athens 1904).
Swann, N. L., Pan Chao: Foremost Woman Scholar in China (New York 1932).
Swann, N. L., A Woman among the Rich Merchants: The Widow of Pa (3rd Century B.C.), JAOS 54 (1939), 186—193.
Swann, N. L., Food and Money in Ancient China, The Earliest Economic History of China to A.D. 25. Han Shu 24 with Related Texts, Han Shu 91 and Shih-Chi 129 (Princeton 1950).
Swarney, P. R., The Ptolemaic and Roman Idios Logos, American Studies in Papyrology 8 (Toronto 1970).
Swiderck, A., La propriété foncière privée dans l'Égypte de Vespasien et sa technique agricole d'après P. Lond. 131 recto, Bibliotheca antiqua 1 (Warsaw 1960).
Swoboda, E., Carnuntum: seine Geschichte und seine Denkmäler (Cologne 1964).
Sylwan, V., Eine chinesische Seide mit spätgriechischem Muster aus dem 5. bis 6. Jahrhundert, OZ N.S. 11 (1935), 22—27.
Sylwan, V., Silk from the Yin Dynasty, BMFEA 9 (1937), 119—126.
Sylwan, V., Woollen Textiles of the Lou-lan People, Sino-Swedish Expedition Publication 15, VII. Archaeology 2 (Stockholm 1941).
Sylwan, V., Investigation of Silk from Edsen-Gol and Lop-nor, Sino-Swedish Expedition Publication 32, VII. Archaeology 6 (Stockholm 1949).
Syme, R., The Imperial Finances under Domitian, Nerva and Trajan, JRS 20 (1930), 55—70.
Syme, R., Observations on the Province of Cilicia, in: Anatolian Studies presented to W. H. Buckler (1939), 299—332.
Syme, R., Consulates in Absence, JRS 48 (1958), 1—9.
Syme, R., Tacitus, 2 vols. (Oxford 1958).
Syme, R., Ammianus and the Historia Augusta (Oxford 1968).
Syme, R., Pliny the Procurator, HSCPh 73 (1969), 201—236.
Syme, R., Emperors and Biography: Studies in the Historia Augusta (Oxford 1971).
Symonovich, E. A., Toward the Question of the Scythian Affiliation of the Cherniakhov Culture, SA (1962), 2. 39—49 = SAA 1.3 (1962/63), 17—24.
Symonovich, E. A., Stekliannye kubki iz Zhupavki, KSIA 102 (1964), 8—12.
Szczesniak, B., Review of H. H. Dubs, A Roman City in Ancient China (London 1957), JAOS 77.4 (1957), 286—287.
Szepessy, T., Die Aithiopika des Heliodoros und der griechische sophistische Liebesroman, AAntHung 7 (1957), 241—259.
Sznycer, M., Ostraca d'époque parthe trouvés à Nisa (U.R.S.S.), Semitica 5 (1955), 65—98.
Sznycer, M., Nouveaux ostraca de Nisa, Semitica 12 (1962), 105—126.
Sznycer, M., Quelques observations sur les ostraca de Nisa, Semitica 13 (1963), 31—37.
Sznycer, M., Les inscriptions araméennes de Tang-i Butan, JA 253 (1965), 1—9.

Taddei, M., A Problem Toilet-tray from Uḍegrām, E&W n.s. 16. 1/2 (1966), 89—93.
Taddei, M., On a Silver Mirror with Portrait of Domitian from Northern Iran, E&W n.s. 17 (1967), 41—50.
Taddei, M., Harpocrates — Brahmâ — Maitreya: A Tentative Interpretation of a Gandharan Relief from Swat, DArch 3.3 (1969), 364—390.

TÄCKHOLM, U., Studien über den Bergbau der römischen Kaiserzeit (Uppsala 1937).

TÄUBLER, E., Imperium Romanum (Leipzig 1913).

TAFAZZOLI, A., A List of Trades and Crafts in the Sassanian Period, AMI N.F. 7 (1974), 191—196.

TAFAZZOLI, A., Elephant: a Demonic Creature and a Symbol of Sovereignty, AcIr 2 ser. 2 (1975) = Monumentum H. S. Nyberg, 395—398.

TAKAMIYA, HIROE, Archaeological Work in the Ryukyu Islands, 1961—1965, in: W. G. SOLHEIM II (ed.), Archaeology at the Eleventh Pacific Science Congress: Papers presented at the XI Pacific Science Congress, Tokyo August—September, 1966, Asian and Pacific Archaeology Series no. 1 (Honolulu 1967), 11—18.

TALLGREN, A. M., The South Siberian Cemetery of Oglakty from the Han-period, ESA 11 (1937), 69—90.

TAN, Y. S., Preliminary Report on the Discovery of the Hoard of Hindu Religious Objects, near Sambas, West Borneo, JSSS 5.1 (1948), 31—38.

TAN, Y. S., Report on the Discovery of Ancient Porcelain Wares in Celebes, JSSS 12.2 (1956), 1—4.

TAQIZADEH, S. H., The Early Sasanians. Some Chronological Points which Possibly Call for Revision, BSOAS 11 (1943/1946), 6—51.

TAQIZADEH, S. H., and HENNING, W. B., The Dates of Mani's Life, AM 6.1 (1957), 106—121.

TARCHNIŠVILI, M., Les récentes découvertes épigraphiques et littéraires en Géorgien, Le Muséon 63 (1950), 249—260.

TARN, W. W., Ptolemy II, JEA 14 (1928), 246—260.

TARN, W. W., Ptolemy II and Arabia, JEA 15 (1929), 9—25.

TARN, W. W., The Greeks in Bactria and India^2 (Cambridge 1951).

TARN, W. W., Hellenistic Civilisation, 3rd ed. revised with G. T. GRIFFITH (New York 1952).

TATSCHEVA-CHITOVA, M., Handwerker und Kaufleute aus dem griechischen Osten in Thrakien (I.—III. Jh.), Acta Conventus XI 'Eirene' 1968 (Warsaw 1971), 87—89.

TAUBENSCHLAG, R., Die Societas negotiationis im Recht der Papyri, ZSS 52 (1932), 64—77.

TAUBENSCHLAG, R., The Law of Associations in Greco-Roman Egypt, RIDA 5 (1950), 509—514.

TAUBENSCHLAG, R., The Interpreters in the Papyri, Charisteria Thadelaeo Sinko (Warsaw 1951), 361—363.

TAUBENSCHLAG, R., The Law of Greco-Roman Egypt in the Light of the Papyri 332 B.C. to 640 A.D.^{2} (Warsaw 1955, repr. Milan 1972).

TAY, C. N., Numismatics and History, a Study of Some Characters in the Han-Shu, MS 26 (1967), 76—88.

TAYLOR, G., A Halved Tetradrachm from Cyrene, Berytus 22 (1973), 23—24.

TAYLOR, J. P., The Cypriot and Syrian Pottery from Al Mina, Syria, Iraq 21 (1959), 62—92.

TAYLOR, L. R., M. Titius and the Syrian Command, JRS 26 (1936), 161—173.

TAYLOR, L. R., Freedmen and Freeborn in the Epitaphs of Imperial Rome, AJPh 82 (1961), 113—132.

TCHALENKO, G., Villages antiques de la Syrie du Nord, le Masif du Bélus à l'époque romaine, 3 vols., BAH 50 (Paris 1953—1958).

TCHERNIA, M., Les fouilles sous-marines de Planier (Boughes-du-Rhône), CRAI (1969), 292—309.

TEGGART, F. J., Rome and China. A Study of Correlations in Historical Events (Berkeley 1939, repr. 1969).

TEIXIDOR, J., Deux inscriptions palmyréniennes du Musée de Bagdad, Syria 40 (1963), 33—46.

TEIXIDOR, J., Notes hatréennes: 1. L'inscription de Sa'adiya, Syria 41 (1964), 273—279.

TEIXIDOR, J., Notes hatréennes: 2. L'inscription de Hatra no. 79, Syria 41 (1964), 280—284.

TEIXIDOR, J., Aramaic Inscriptions of Hatra, Sumer 20 (1964), 77—81.

TEIXIDOR, J., The Altars Found at Hatra, Sumer 21 (1965), 85—92.

TEIXIDOR, J., Notes hatréennes: 3. Le titre d''aphkala', Syria 43 (1966), 91—93.

TEIXIDOR, J., Notes hatréennes: 4. Sur l'ère en usage à Hatra, Syria 43 (1966), 93—97.

TEIXIDOR, J., The Kingdom of Adiabene and Hatra, Berytus 17 (1967), 1—11.

TEIXIDOR, J., Bulletin d'épigraphie sémitique, Syria 44 (1967), 178—195.

Teixidor, J., The Nabataean Presence at Palmyra, JANES 5 (1973), 405—409.

Teixidor, J., Bulletin d'épigraphie sémitique, Syria 50 (1973), 401—442.

Teploukhov, S. A., Drevnie Pogrebiia v Minusinskom krae, ME 3.2 (1927), 57—112.

Terenozhkin, A. I., Arkheologicheskaia, rekognostsirovka v zapadnoi chasti Uzbekistana, VDI (1947), 2, 185—190.

Terenozhkin, A. I., Voprosy istoriko-arkheologicheskoi periodizatsii drevnego Samarkanda, VDI (1947), 4, 127—135.

Terenozhkin, A. I., Raskopki na gorodishche Afrasiabe, KSIIMK 36 (1951), 136—140.

Thakur, U., Further Observations on Mints in Ancient India, INC 3.1 (1962), 68—99.

Thakur, U., The Second Phase of the Huna Invasion of India, JIH 44 (1966), 67—92.

Thakur, U., A Study in Barter and Exchange in Ancient India, INC 6.1 (1967), 3—17.

Thakur, U., Early Indian Mints, JESHO 16 (1973), 265—297.

Thapar, B. K., Maski 1954: A Chalcolithic Site of the Southern Deccan, AI 13 (1957), 5—142.

Thapar, R., State Weaving Shops of the Mauryan Period, JITH 5 (1960), 51—59.

Thapar, R., Aśoka and the Decline of the Mauryas (Oxford 1961).

Thaplyal, K. K., Greek Devices on some Rajghat Sealings: a Review, JNSI 31.2 (1969), 135—139.

Thaplyal, K. K., A Kuṣāṇa Seal of Rare Artistry, BMAUP 4 (1969), 7—8.

Theobald, W., Note on Mr. G. F. Hill's Theory Regarding the Defacement of Roman Aurei from Pudukota, NC 3 ser. 19 (1899), 81.

Thiel, J. M., Eudoxus of Cyzicus. A Chapter in the History of the Sea-Route to India and the Route Round the Cape in Ancient Times, Historische Studies uitgegeven vanwege het Instituut voor Geschiedenis der Rijksuniversiteit te Utrecht 23 (Groningen 1966).

Thierry, S., Inventaire des Perles de fouilles à Madagascar, BAM 37 (1959), 102—141.

Thirion, M., Folles d'Alexandrie, RBN 107 (1961), 192—207.

Thiselton-Dyer, W., On Some Ancient Plant-Names, JPh 33 (1914), 195—207.

Tholander, E., Evidence of the Use of Carburised Steel and Quench Hardening in Late Bronze Age Cyprus, OpAthen 10.3 (1971), 15—22.

Thomas, E. J., The Question of Zoroastrian Influence on Early Buddhism, in: Dr. Modi Memorial Volume. Papers on Indo-Iranian and Other Subjects Written by Several Scholars in Honour of Shams-ul-Ulama Dr. J. J. Modi (Bombay 1939), 279—289.

Thomas, F. W., The Date of Kaniska, JRAS (1913), 627—650, 1011—1042.

Thomas, F. W., Greek στατήρ in Central Asia, JRAS (1926), 507.

Thomas, F. W., Tibetan Literary Texts and Documents Concerning Chinese Turkestan, vol. 1: Literary Texts, OTF n.s. 32 (London 1935); vol. 2: Documents, OTF n.s. 37 (London 1951); vol. 3: Addenda and Corrigenda, OTF n.s. 40 (London 1955).

Thomas, F. W., Sino-Kharoṣṭhi Coins, NC 6 ser. (1944), 83—98.

Thomas, F. W., The Early Population of Lou-lan-Shan-shan, JGIS 11.2 (1944), 45—84.

Thomas, F. W., Some Notes on Central-Asian Kharoṣṭhī Documents, BSOAS 11.3 (1945), 513—549.

Thomas, F. W., Notes on 'The Scythian Period', JRAS (1952), 108—116.

Thomas, J. D., The Theban Administrative District in the Roman Period, JEA 50 (1964), 139—143.

Thomas, J. D., Notes on Documentary Papyri (P. Oxy. 1572 and 2561, BGU 2118), ZPE 8.3 (1971), 278—284.

Thomas, J. D., An Imperial *Constitutio* on Papyrus, BICS 19 (1972), 103—112.

Thomas, J. D., A Re-edition of P. Oxy. II.320, ZPE 16.3 (1975), 309—314.

Thomas, P. J., Roman Trade Centres in Malabar, KSP 2 ser. 10 (1932), 259—269.

Thomassen à Thuessink van der Hoop, A. N. J., Megalithische oudheden in Zuid Sumatra (Zutphen 1932).

Thomassen à Thuessink van der Hoop, A. N. J., Prehistoric Glass Beads in the Malay Archipelago, Proceedings of the Third Congress of Prehistorians of the Far East, Singapore, 24 Jan.—30 Jan. 1938 (Singapore 1940).

Thompson, D., A Fragmentary Stucco Plaque in the Royal Ontario Museum, in: D. K. Kouymjian (ed.), Near Eastern Numismatics, Iconography, Epigraphy and History. Studies in Honor of George C. Miles (Beirut 1974), 83—96.

Thompson, E. A., Maroboduus, in: Γέρας: Studies presented to G. Thomson (Prague 1963), 203—210.

Thompson, H. A., Syrian Wheat in Hellenistic Egypt, APF 9 (1930), 207—213.

Thompson, M., Athens Again, NC 7 ser. 2 (1962), 301—333.

Thomsen, P., Die römischen Meilensteine der Provinzen Syria, Arabia und Palästina, ZDPV 40 (1917), 1—103.

Thomsen, R., Comment, in: Third International Conference of Economic History, Munich 1965, vol. 3: The Ancient Empires and the Economy (Paris/The Hague 1969), 105—110.

Thomsen, W., Dr. M. A. Stein's Manuscripts in Turkish 'Runic' Script from Miran and Tun-huang, JRAS (1912), 181—217.

Thomson, D. F. S., Nugae Papyrologicae, I. P. Jandana Inv. no. 209, in: Festschrift F. Oertel. Studien zur Papyrologie und Antiken Wirtschaftsgeschichte (Bonn 1964), 17—18.

Thomson, J. O., History of Ancient Geography (Cambridge 1948).

Thordeman, B., The Lohe Hoard, NC 6 ser. 8 (1946), 188—204.

Thorley, J., The Development of Trade between the Roman Empire and the East under Augustus, G&R 16 (1969), 209—223.

Thorley, J., The Silk Trade between China and the Roman Empire at its Height, circa A.D. 90—130, G&R 18 (1971), 71—80

Thorner, A., Ancient Art and Modern Archaeology, in: O. Lattimore, Pivot of Asia: Sinkiang and the Inner Asian Frontiers of China and Russia (Boston 1950), 223—239.

Thurston, E., On a Recent Discovery of Roman Coins in Southern India, NC 3 ser. 9 (1889), 325—328.

Thurston, E., A Further Discovery of Roman Coins in Southern India, NC 3 ser. 11 (1891), 199—202.

Thurston, E., Madras Government Museum Coins, Catalogue No. 2: Roman, Indo-Portugese, and Ceylon (Madras 1894).

Tibbetts, G. R., Pre-Islamic Arabia and South-East Asia, JMBRAS 29.3 (1956), 182—208.

Tibbetts, G. R., The Malay Peninsula as Known to the Arab Geographers, MJTG 9 (1956), 21—60.

Tibbetts, G. R., Arab Navigation in the Indian Ocean before the Coming of the Portuguese, OTF 42 (London 1971).

Tibbetts, G. R., Arabia in the Fifteenth-Century Navigational Texts, ArSt 1 (1974), 86—101.

Till, W., Koptische Heiligen- und Märtyrerlegenden, 2 vols., Orientalia christiana analecta 102 and 108 (Rome 1935).

Tissot, F., Remarques iconographiques à propos d'une tête de roi barbare du Gandhāra, ArtsAs 32 (1976), 71—90.

Tod, M. N., Review of G. Tseretheli, A Bilingual Inscription from Armazi Near Mcheta in Georgia, Bulletin of the Marr Institute of Languages, History and Material Culture 13 (1942), 1—83, JRS 33 (1943), 82—86.

Todd, M., A Late Roman Bronze Hoard from the East Containing Die Links, NC 7 ser. 4 (1964), 235—239.

Toepel, L. R., Studies in the Administrative and Economic History of Tebtunis in the First Century A.D., unpublished Ph. D. diss. Duke University (1973).

Toll, N. P., Zametki a kitaiskom shelke na iuge Rossi, SemKond 1 (1927), 85—92.

Toll, N. P., The Necropolis at Halabie-Zenobia (Preliminary Exploration), SemKond 9 (1937), 11—22.

Tolmachoff, E., Some Ancient Greek Textiles Found in South Russia, BNBC 26.2 (1942), 17—57.

Tolstov, S. P., Drevnii Khorezm (Moscow 1948).

Tolstov, S. P., Po sledam drevrekhorezmiiskoi Tsivilizatsii (Moscow/Leningrad 1948).

Tolstov, S. P., Po drevnim del'tam Oksa i Iaksarta (Moscow 1962).

Tolstov, S. P., Arkheologicheskie raboty Khorezmskoi ekspeditsii, AN SSSR v 1952g., VDI (1953), 12. 154—188.

Tolstov, S. P., Les résultats des travaux de l'expédition archéologique et ethnographique de l'Académie des Sciences de l'URSS au Khorezm en 1951—1955, RAA 4 (1957), 82—112; 187—198.

TOLSTOV, S. P., and ANDRIANOV, B. V., Novye materialy po istorii razvitiia irrigatsii v Chorezme, KSIE 26 (1957), 5—11.

TOLSTOV, S. P., Khorezmiskaia arkheologo-etnograficheskaia ekspeditsiia, 1955—1956gg., SA 28 (1958), 106—133.

TOLSTOV, S. P., Les Scythes de l'Aral et le Khorezm, Iranica Antiqua 1 (1961), 42—92.

TOLSTOV, S. P., Sredneaziatskie skifi v svele noveishikh archeologicheskikh otkrytii, VDI (1963), 2. 23—45.

TOLSTOV, S. P., and LIVSHITZ, V. A., Decipherment and Interpretation of the Khwarezmian Inscriptions from Tok Kala, AAntHung 12 (1964), 231—251.

TOLSTOV, S. P., Dated Documents from the Toprak-Kala Palace, and the Problem of the 'Saka Era' and the 'Kaniska Era', in: A. L. BASHAM (ed.), Papers on the Date of Kaniṣka (Leiden 1968), 304—326.

TOMASCHEK, W., Kritik der ältesten Nachrichten über den skythischen Norden, I: Über das Arimaspische Gedicht des Aristeas, SAWW 116 (Vienna 1888), 715—780.

TOMASCHEK, W., Kritik der ältesten Nachrichten über den skythischen Norden, II: Die Nachrichten des Herodots über den skythischen Karawanenweg nach Innerasien, SAWW 117 (Vienna 1889), 1—7.

TORII, R., and TORII, K., Études archéologiques et éthnologiques de populations primitives de la Mongolie orientale, Journal of the College of Science, Imperial University of Tokyo 36.4 (March 29 1914), 1—85.

TORR, C., Ancient Ships^2 (Chicago 1964).

TORREN, C. C., 'Yāwān' and 'Hellas' as Designations of the Seleucid Empire, JAOS 25 (1904), 302—311.

TORREY, C., The Foundry of the Second Temple at Jerusalem, JBL 55 (1936), 247—260.

TOTH, T. A., Palaeoanthropological Finds from the Valley of Hudjirte (Noin Ula, Mongolia), AArch Hung 14. 3/4 (1962), 251—253.

TOUMANOFF, C., Caucasia and Byzantium, Traditio 27 (1971), 111—158.

TRABOLD, J. L., A Chronology of Indian Sculpture: the Sātavāhana Chronology at Nāsik, Artibus Asiae 32 (1970), 49—88.

TRAUTMANN, T. R., Kautilya and the Arthaśāstra (Leiden 1971).

TREGENZA, L. A., Notes on a Recent Journey from Abu Zawal to the Greiya Station, Univ. of Egypt, Bull. Fac. of Arts 11.1 (1949), 127—135.

TREGENZA, L. A., and WALKER, J., Nabataean Inscriptions from the E. Desert of Egypt, Univ. of Egypt Bull.. Fac. of Arts 11.2 (1949), 151—160.

TREGENZA, L. A., A Latin Inscription from Wadi Semna, Univ. of Egypt. Bull. Fac. of Arts 12.2 (1950), 85—89.

TREGENZA, L. A., The Curator Inscription and Other Recently Found Fragments from Wadi Semna, Univ. of Egypt. Bull. Fac. of Arts 13.2 (1951), 39—52.

TREGGIARI, S., Roman Freedman during the Late Republic (Oxford 1969).

TRELOAR, F. E., Stoneware Bottles in the Sarawak Museum: Vessels for Mercury Trade ?, SMJ 20 (1972), 377—384.

TRETIAKOV, P. N., The Ethnogenetic Process and Archaeology, SA (1962), 4.3—16 = SAA 1.4 (1963), 3—13.

TREU, M., Nach Kleopatras Tod (P. Oxy. 2820), Chiron 3 (1973), 221—233.

TREVER, C., Excavations in Northern Mongolia (Leningrad 1932).

TREVER, K. V., Pamiatniki greko-baktriiskogo is kusstva (Moscow/Leningrad 1940).

TREVER, K. V., Rel'ef zhenshchiny s arfoi, in: Sokrovishcha Ermitazha (Moscow/Leningrad 1949), 103—106.

TREVER, K. V., Bronzovyi falar naidennyi v Stalinabade, SRIKM 3 (1958), 24—29.

TREVER, K. V., Baktriiskii bronzovyi falar s isobrazheniem Dionisa, TGE 5 (1961), 98—109.

TRICHET, J., and POUPET, P., Étude petrographique de la roche constituant la statue de Darius, decouverte à Suse, en December 1972, CDAFI 4 (1974), 57—59.

TRIGGER, B. G., The Myth of Meroe and the African Iron Age, AfrHistStud 2.1 (1969), 23—50.

TRIGGER, B. G., The Royal Tombs at Qustul and Ballâna and their Meroïtic Antecedents, JEA 55 (1969), 117—128.

Tripathi, L. K., The Local Coins of Northern India: Their Bearing on History, in: A. K. Narain (ed.), Seminar Papers on the Local Coins of Northern India ca. 300 B.C. to 300 A.D., Memoirs of the Dept. of Ancient Indian History, Culture and Archaeology no. 2 (Varanasi 1968), 169—178.

Trivedi, H. V., A Note on Buddha on Indo-Scythian Coins, JNSI 15 (1955), 155—158.

Trivedi, H. V., Some Śaka, Pahlava and Kushāṇa Coins in the Museum of American Numismatic Society, JNSI 20.2 (1958), 153—161.

Trivedi, H. V., Western Kshatrapa Coins in the Andhra Pradesh Government Museum Hyderabad, Andhra Pradesh Government Museum Series No. 8 (Hyderabad 1964).

Trofimova, T. A., Palaeoanthropological Remains Coming from the Territory of Ancient Xorezm, E&W n.s. 8 (1958), 283—302.

Trousdale, W., A Chinese Handle-Bearing Mirror from Northern Afghanistan, Artibus Asiae 24 (1961), 11—19.

Trudnovskaia, S. A., Ukrasheniia pozdneantichnogo Khorezma po materialam raskopok Toprak-Kalo, in: Trudy Khorezmskoi arkheologo-etnograficheskoi ekspeditsii, vol. 1 (Moscow 1952), 119—134.

Trümpelmann, L., Sapur mit der Adlerkopfkappe, Zur Investitur bei den Sasaniden, AMI N.F. 4 (1971), 173—191.

Tscherikower, V., Die Hellenistischen Städtegründungen von Alexander dem Großen bis auf die Römerzeit, Philologus Suppl. 19.1 (Leipzig 1927).

Tsereteli, G. V., Grecheskaia nadpis' epokhi Vespasiana iz Mtskheta, VDI (1960), 2. 123—133.

Tsien, Tsuen-Hsuin, Written on Bamboo and Silk (Chicago 1962).

Tsunoda, Banci, Iwayuru 'Ri Ryō no teitaku ato' ni tsuite, Kodaigaku 6 (1957), 87—95; cf. RBS 3 (1957), no. 412.

Tucci, G., Scerrato, U., Carratelli, G. P., and Levi della Vida, G., Un editto bilingue greco-aramaico di Aśoka, Serie Orientale Roma 21 (Rome 1958).

Tucci, G., Explorations récentes dans le Swat, Le Muséon 79 (1966), 42—58.

Tudor, D., Les Syriens en Dacie inférieure, AAS 21 (1971), 71—80.

Tufnell, B. H. C., Hints to the Coin-Collectors in Southern India, II, MJLS (1887/1888), 160—196.

T'ung, Chu-ch'en, K'ao-ku-hsüeh-shang Han-tai chi Han-tai i-ch'ien-ti tung'pei chiang-yü, KKHP (1956), 1. 29—42.

Turner, E. G., Egypt and the Roman Empire: The ΔΕΚΑΠΡΩΤΟΙ, JEA 22 (1936), 7—19.

Turner, E. G., Papyrus 40 Della Raccolta Milanese, JRS 40 (1950), 57—59.

Turner, E. G., Tiberius Iulius Alexander, JRS 44 (1954), 54—64.

Turner, E. G., Oxyrhynchus and Rome, HSCPh 79 (1975), 1—24.

Turner, G., South Arabian Gold Jewellery, Iraq 35.2 (1973), 127—139.

Tweedie, M. W. F., Report on Cave Excavations Carried out in Bukit Chintamani Near Bentong, Pahang, BRM 8 ser. 1 (1936), 17—25.

Tweedie, M.W. F., Prehistoric Objects from the Tui Gold Mine Near Padang Tengku, Pahang, JMBRAS 20.1 (1947), 41—44.

Tweedie, M. W. F., Prehistory in Malaya, JSSS 4.2 (1947), 1—7.

Twitchett, D.C., Some Remarks on Irrigation under the T'ang, TP 2 ser. 48 (1960), 175—194.

Twitchett, D.C., Merchant, Trade and Government in Late T'ang, AM n.s. 14 (1968), 63—95.

Twitchett, D. C., Financial Administration under the T'ang Dynasty^2 (Cambridge 1970).

Twitchett, D., A Confucian's View of the Taxation of Commerce: Ts'ui Jung's Memorial of 703, BSOAS 36.2 (1973), 429—445.

Tylecote, R. F., Iron Working at Meroë, Sudan, BHM 4.2 (1970), 67—72.

Tyler, P., Analyses of Mid-third-century Roman Antoniniani as Historical Evidence, in: E. T. Hall and D. M. Metcalf (eds.), Methods of Chemical and Metallurgical Investigation of Ancient Coinage (London 1972), 249—260.

Tzori, N., An Inscription of the *legio VI Ferrata* from the Northern Jordan Valley, IEJ 21.1 (1971), 53—54.

Uchida, Gimpu, Dai go seiki Higashi Torukisutan shi ri kansuru ichi kōsatsu: Zenzen koku no Sammetsu o chūshin to shite, Kodaigaku 10 (1961), 1—19; cf. RBS (1961), no. 124.

Uebel, F., Τάραχη τῶν Αἰγύτιων, APF 17.2 (1962), 147—162.

Uebel, F., ΜΟΝΟΠΩΛΙΑ ΦΑΚΗΣ: Ein bisher unbezeugtes Handelsmonopol frühptolemäischer Zeit in einem Jenaer Papyrus (P. Ien. Inv. 900), Actes du X^e Congrès International de Papyrologues, Warsaw, 3—9 Sept. 1961 (Warsaw 1964), 165—181.

Ullman, B. L., Preference of the Ancient Germans for Old Money and the Serration of Roman Coins, PhQ 1 (1922), 311—317.

Ullman, B. L., History and Tragedy, TAPhA 73 (1942), 25—53.

Umehara, S., Studies in Noin-Ula Finds in Northern Mongolia (Tokyo 1960).

Unnithan, N. G., Eyyal Hoard of Silver Punch-marked and Roman Coins, JNSI 25.1 (1963), 22—28.

Unvala, J. M., On the Three Parchments from Avroman in Kurdistan, BSOS 1.4 (1920), 125—144.

Unvala, J. M., Presidential Address to the Annual Meeting of the Numismatic Society of India, 27 Dec. 1948, JNSI 10 (1948), 157—169.

Upadhyaya, D., and Chaturvedi, S. N., Two Gold Punch-marked Coins, JNSI 34 (1972), 153—156.

Upreti, G. B., Avadanas on the Political Role of the Traders, BudSt (1974), 87—94.

Urman, D., Jewish Inscriptions from Dabbura in the Golan, IEJ 22.1 (1971), 16—23.

Uxkull-Gyllenband, W., Graf, Zum Gnomon des Idios Logos, APF 9 (1928/1930), 183—206.

Uxkull-Gyllenband, W., Graf, Der Gnomon des Idios Logos. Zweiter Teil: Der Kommentar, Ägyptische Urkunden aus den Staatlichen Museen zu Berlin. Griechische Urkunden, V. 2 (Berlin 1934).

Vahala, F., Der Elefant in Ägypten und Nubien, ZÄS 98 (1970), 81—83.

Valette, J., De l'origine des Malgaches, Taloha 1 (1965), 15—32.

Vallat, F., Les textes cunéiformes de la statue de Darius, CDAFI 4 (1974), 161—170.

Vallat, F., L'inscription trilingue de Xerxes à la porte de Darius, CDAFI 4 (1974), 171—180.

Vallat, F., La triple inscription cunéiforme de la statue de Darius I^{er}, RAssyr 68.2 (1974), 157—166.

van Beek, G. W., A Radiocarbon Date for Early South Arabia, BASOR 143 (1956), 6—9.

van Beek, G. W., Frankincense and Myrrh in Ancient South Arabia, JAOS 28 (1958), 141—151.

van Beek, G. W., and Jamme, A., An Inscribed South Arabian Clay Stamp from Bethel, BASOR 151 (1958), 9—16.

van Beek, G. W., Frankincense and Myrrh, BibArch 28.3 (1960), 70—95.

van Beek, G. W., Pre-Islamic South Arabian Shipping in the Indian Ocean — A Surrejoinder, JAOS 80.2 (1960), 136—139.

van Beek, G. W., and Jamme, A., The South-Arabian Stamp from Bethel Again, BASOR 163 (1961), 17—18.

van Beek, G. W. (ed.), Hajar bin Humeid Investigations at a Pre-Islamic Site in South Arabia, Publications of the American Foundation for the Study of Man, vol. 5 (Baltimore 1969).

van Beek, G. W., and Jamme, A., The Authenticity of the Bethel Stamp Seal, BASOR 199 (1970), 59—65.

van Beek, G. W., and Jamme, A., A Hellenistic Bronze Figurine from South Arabia, JNES 35.3 (1976), 195—198.

van Berchem, D., Les Italiens d'Argos et le déclin de Délos, BCH 86.1 (1962), 305—313.

van Berchem, D., Le premier rempart de Palmyre, CRAI (1970), 231—237.

van Buren, A. W., The Past Decade of Pompeian Studies, CJ 15.7 (1920), 404—416.

van den Berghe, L., Nouvelles découvertes de monuments du feu d'époque Sassanide, Iranica Antiqua 5 (1965), 128—147.

van den Branden, A., Les textes thamoudéens de Philby, vol. 1: Inscriptions du Sud, BdM 40 (Louvain 1956).

van den Branden, A., Les textes thamoudéens de Philby, vol. 2: Inscriptions du Nord, BdM 41 (Louvain 1956).

van den Branden, A., Les textes thamoudéens de Huber et d'Euting, Le Muséon 69 (1956), 109—137.

van den Branden, A., La chronologie de Dedan et de Lihyan, BiOr 14.1 (1957), 13—16.

van der Hoop, A. N. J. Th., Steenkistgraeven en Goenoeng Kidoel, TITLV 75 (1935), 83—100.

van der Sleen, W. G. N., Ancient Glass Beads with Special Reference to the Beads of East and Central Africa and the Indian Ocean, JRAI 88.2 (1958), 203—216.

van der Sleen, W. G. N., A Bead Factory in Amsterdam in the Seventeenth Century Man (Nov. 1963), art. no. 219, 172—174.

van der Sleyen, C., Chronologie des préfets d'Égypte de 284—395, Collection Latomus 55 (Bruxelles 1962).

van der Wee, H., The Growth of the Antwerp Market and the European Economy (Fourteenth—Sixteenth Centuries), (The Hague 1963).

Vandoni, M., Gli Epistrategi nell'Egitto greco-romano^2 (Milan 1972).

van Genderen, A. M., Personal Ornament in the Early Iron Age of the Transvaal: New Discoveries of Site 24/73, Broederstroom, Transvaal, South Africa, SAJS 70 (1974), 218—219.

van Groningen, B. A., Quelques notes sur le papyrus d'Oxyrhynchus XXII. 2342, CE 32 (1957), 348—351.

van Lessen, M., The Coinage Pattern of Palestine in the First and Second Centuries A.D., NCirc 79.6 (June 1971), 240—241.

van Leur, J. C., Indonesian Trade and Society (The Hague/Bandung 1955).

van Lohuizen-de Leeuw, J. E., The 'Scythian' Period. An Approach to the History, Art, Epigraphy and Palaeography of North India from the 1st Century B.C. to the 3rd Century A.D. (Leiden 1949).

van O. de Flines, E. W., De keramische Verzameling, 1934, JKBGKW 2 (1935), 206—215.

van O. de Flines, E. W., De keramische Verzameling, 1935, JKBGKW 3 (1936), 214—218.

van O. de Flines, E. W., De keramische Verzameling, JKBGKW 4 (1937), 173—179; 5 (1938), 159—166.

Vansin, J., Long Distance Trade Routes in Central Africa, JAH 3 (1962), 375—390.

van't Dack, E., Recherches sur l'administration du nome dans la Thébaïde au temps des Lagides, Aegyptus 29 (1949), 3—44.

van't Dack, E., Notes concernant l'épistratégie ptolémaique, Aegyptus 32 (1952), 437—450.

van Werveke, H., Monnaie, lingots, ou marchandises? Les instruments d'échange aux XI^e et XII^e siècles, Annales (ESC) 4 (1932), 452—468.

van Wijk, W. E., On Dates in the Kaniṣka Era, AcOr 5.2 (1926), 168—170.

van Windekens, A. J., Note sur un terme des documents Prakrits krorainiques d'Asie Centrale, CAJ 15.3 (1971), 161—173.

Vasil'ev, L. S., Ban' Chao v Zapodnow Krae, VDI (1955), 1. 108—125.

Vasmer, R., Zur Münzkunde von Baktrien im 3. Jahrhundert n. Chr., ZfN 42 (1932), 24—58.

Vats, M. S., Unpublished Votive Inscriptions in the Chaitya Cave at Karle, EpInd 18 (1925/1926), 325—329.

Velgus, V. A., Some Problems of the History of Navigation in the Indian and Pacific Oceans, in: The Countries and Peoples of the East (Moscow 1974), 45—90.

Vercoutter, J., The Gold of Kush: Two Gold Washing Stations at Faras East, Kush 7 (1959), 120—153.

Vercoutter, J., Le sphinx d'Aspelta de Defeia, BEIFAO 32 (1961), 97—104.

Vercoutter, J., Un palais des 'Candaces', contemporain d'Auguste (Fouilles à Wad-ban-Naga 1958—1960), Syria 39 (1962), 263—299.

Vercoutter, J., Excavations at Aksha, Kush 11 (1963), 131—140 (with addenda on the inscriptions by A. Rosenvasser).

Vérin, P., with R. Battistini and D. Chabouis, L'ancienne civilisation de l'Isandra, Taloha 1 (1955), 249—285.

Vérin, P., Rétrospective et problèmes de l'archéologie à Madagascar, AP 6 (1962), 198—218.

Vérin, P., Madagascar, AP 10 (1967), 26—84.

Vérin, P., Observations préliminaires sur les sites du Mozambique, Azania 5 (1970), 184—189.

Vérin, P., Austronesian Contributions to the Culture of Madagascar: Some Archaeological Problems, in: H. N. Chittick and R. I. Rotberg (eds.), East Africa and the Orient, Cultural Syntheses in Pre-Colonial Times (New York/London 1975), 164—191.

Vermeule, C., Minting Greek and Roman Coins, Archaeology 10.2 (1957), 100—107.

Vessberg, B., Un Bronze du Style Houai, découvert à Rome, BMFEA 9 (1937), 127—131.

Veyne, P., Vie de Trimalcion, Annales (ESC) 16.2 (1961), 213—247.

Vial, G., Les soieries Han II: Analyse technique sur un spécimen de Noin Oula, ArtsAs 17 (1968), 119—141.

Vial, G., Analyse technique des enchantillons, BLCIETA 32 (1970), 40—73.

Viaz'mitina, M. I., Raskopki na gorodishche Airtam, in: Termezskaia arkheologicheskaia kompleksnaia ekspeditsiia, vol. 2, Trudy Akademiia nauk Uzbekskoi SSR, ser. 1. Istoria, arkheologiia (Tashkent 1945), 23—34.

Vidman, L., Étude sur la correspondance de Pline le Jeune avec Trajan, Rozpravy Československe akademie věd. Rada společenskych věd. Roč. 70, seš 14 (Prague 1960).

Vieillefond, J.-B., Un fragment inédit de Julius Africanus, REG 46 (1933), 197—203.

Viereck, P., Aktenstücke zum griechisch-römischen Vereinswesen, Klio 8 (1908), 413—426.

Vigié, M., Inscription de Koptos de l'an 90 de notre ère relative à des droits de transit, Société Languedocienne de Géographie 20 (1897), 184—203.

Villiers, A., Sons of Sinbad (New York 1940).

Villiers, A., Sailing with the Arabs, MM 47 (1961), 242—255.

Villiers, A., Voyage in a Kuwait Boom, Part II, MM 48 (1962), 264—275.

Vinnikov, T. N., O iazyke pis'mennykh pamiatnikov iz Nisy (Iushnyi Turkmenistan), VDI (1954), 2. 115—128.

Vinokur, I. S., Nekotorye voprosy dukhovnoi kul'tury Cherniakhovskikh plemen, SA (1969), 1.48—61.

Visky, K., Das Seedarlehn und die damit verbundene Konventionalstrafe im römischen Recht, RIDA 3 ser. 16 (1969), 389—419.

Vitt, V. O., Loshadi Pazyrykskikh kurganov, SA 16 (1952), 164—194.

Vogel, J. O., Some Early Iron Age Sites in Southern and Western Zambia, Azania 8 (1973), 25—54.

Vogel, J. P., A Statue of King Kanishka, JPanHS 2.1 (1913), 39—49.

Vogel, J. P., The Yūpa Inscriptions of King Mūlavarman from Koetei (East Borneo), BKI 74 (1918), 167—232.

Vogel, J. P., The Earliest Sanskrit Inscriptions of Java, in: Publicaties van den Oudheidkundigen dienst in Nederlandsch-Indie, 1 (Batavia 1925), 15—35.

Vogel, J. P., Note on an Ivory Statuette from Pompeii, ABIA 13 (1938), 1—5.

Vogel, J. P., Ptolemy's Topography of India: His Sources, in: Archaeologica Orientalia in Memoriam Ernst Herzfeld (New York 1952), 226—234.

Vogel, J. P., Ujjhān-Ujjihāna-Ozoana, JRAS (1955), 25—28.

Vogt, J., Die alexandrinischen Münzen, 2 vols. (Stuttgart 1924).

Vogt, J. (E. von Sieglin, ed.), Die griechisch-ägyptische Sammlung Ernst von Sieglin, vol. 2: Terrakotten, Expedition Ernst von Sieglin. Ausgrabungen in Alexandria, vol. 2.2 (Leipzig 1924).

Vorob'eva-Desiatovskaia, M. I., Pamiatniki indiiskoi pis'mennosti iz Srednei Azii, in: Indiia v Drevnosti (Moscow 1964), 210—217.

Vorob'eva-Desiatovskaia, M. I., Nadpisi pis'mon Kkharoshtkhi na zolotykh predmetakh iz Dal'verzin-tepe, VDI (1976), 1. 70—79.

Voronets, M. E., Otchet arkheologicheskoi ekspeditsii Muzeia istorii Academii rauk Uzbekistanskoi SSR o raskopkakh pogrebal'nykh kurganov pervykh vekov s. e. vozle stantsii Vrevskaia v 1947g., TMIUzSSR 1 (1951), 43—73.

Voskresensky, A. A., and Tikhonov, N. P., Technical Study of Textiles from the Burial Mounds of Noin-Ula, BNBC 20. 1/2 (1936), 3—73.

Vycichl, W., Notes on the Story of the Shipwrecked Sailor, Kush 5 (1957), 70—72.

Vycichl, W., The Present State of Meroitic Studies, Kush 6 (1958), 74—81.

Vycichl, W., Hindu Influence in Meroitic Art? On the Three-Headed Lion-God 'Apezemak', Kush 6 (1958), 174—176.

Vycichl, W., The Strategos of the Water, Kush 6 (1958), 178—179.

VYCICHL, W., The Name of the Blemmyes, Kush 6 (1958), 179.
VYCICHL, W., Punt, Opone, Hafun — das Weihrauchland der alten Ägypter?, MIO 13.1 (1967), 45—46.
VYCICHL, W., Lag das Land Punt am Meer oder im Sudan?, CE 45 (1970), 318—324.

WACHTEL, K., Sklaven und Freigelassene in der staatlichen Finanzverwaltung des römischen Kaiserreiches, AAntHung 15 (1967), 341—346.
WADA, HIROSHI, Prokops Rätselwort Serinda und die Verpflanzung des Seidenbaus von China nach dem oströmischen Reich (Diss. Inaug. Köln 1971).
WADDELL, Lt.-Col., The Date of Kanishka, JRAS (1913), 945—952.
WAGGONER, N. M., The Coinage of Phraates III of Parthia: Addenda, in: D. K. KOUYMJIAN (ed.), Near Eastern Numismatics, Iconography, Epigraphy and History. Studies in Honor of George C. Miles (Beirut 1974), 15—26.
WAGNER, G., Stèle funéraire de Kobón, ZPE 12.2 (1973), 173—176.
WAGNER, G., Inscriptions grecques des Oasis de Dakhleh et Baharieh découvertes par le Dr. Ahmed Fakhry, BIFAO 73 (1973), 177—192.
WAGNER, G., Cinq inscriptions grecques d'Égypte, ZPE 13.1 (1974), 90—94.
WAINWRIGHT, G. A., Cosmas and the Gold Trade of Fazogli, Man (May—June 1942), art. no. 30, 52—58.
WAINWRIGHT, G. A., Iron in the Napatan and Meroitic Ages, SNR 26 (1945), 5—36.
WAINWRIGHT, G. A., Zeberged: The Shipwrecked Sailor's Island, JEA 32 (1946), 31—38.
WAINWRIGHT, G. A., Early Foreign Trade in East Africa, Man (Nov. 1947), art. no. 161, 143—148.
WAINWRIGHT, G. A., The Date of the Rise of Meroë, JEA 38 (1952), 75—77.
WAINWRIGHT, G. A., The Diffusion of *-uma* as a Name for Iron, UJ 18 (1954), 113—136.
WAINWRIGHT, G. A., Early Magan, Antiquity 37 (1963), 307—309.
WAKANKAR, V. S., A Glass Seal from Ujjain, INC 3.2 (1964), 155—157.
WALBANK, F. W., A Historical Commentary on Polybius, 2 vols. (Oxford 1957—1967).
WALBANK, F. W., Political Morality and the Friends of Scipio, JRS 55 (1965), 1—16.
WALES, D. C. and H. G. Q., Further Work on Indian Sites in Malaya, JMBRAS 20.1 (1947), 1—11.
WALES, H. G. Q., A Newly Explored Route of Ancient Indian Cultural Expansion, IAL 9 (1935), 1—35.
WALES, H. G. Q., Further Excavations at P'ong Tük (Siam), IAL 10 (1936), 42—48.
WALES, H. G. Q., Some Notes on the Kingdom of Dvāravatī, JGIS 5.1 (1938), 24—30.
WALES, H. G. Q., Archaeological Researches on Ancient Indian Colonization in Malaya, JMBRAS 18.1 (1940), 1—85.
WALES, H. G. Q., Recent Malayan Excavations and Some Wider Implications, JRAS (1946), 3/4. 140—149.
WALES, H. G. Q., The Sabaeans and Possible Egyptian Influences in Indonesia, JMBRAS 23.3 (1950), 36—42.
WALES, H. G. Q., Mūang Bon, a Town of Northern Dvāravatī, JSS 53.1 (1965), 1—7.
WALEY, A., Notes on Chinese Alchemy, BSOS 6.1 (1930—1932), 1—24.
WALEY, A., The Heavenly Horses of Ferghana. A New View, History Today 5.6 (1955), 95—103.
WALHOUSE, M. J., Archaeological Notes, XII: Aqua Marina Gems Ancient and Modern, IA 5 (1876), 237—239.
WALKER, J., A New Type of South Arabian Coinage, NC 5 ser. 17 (1937), 260—279.
WALKER, J., Some New Coins from Kilwa, NC 5 ser. 19 (1939), 223—227.
WALKER, J., The Coins of Hatra, NC 6 ser. 18 (1958), 167—172.
WALL, L., Prehistoric Earthenwares: Pottery Common to Sarawak and Malaya, SMJ 10 (1962), 417—427.
WALLACE, S. L., Taxation in Egypt from Augustus to Diocletian, Princeton University Studies in Papyrology, no. 2 (Princeton 1938).
WALSER, G., Anepigraphe Meilensteine in der Schweiz, Chiron 4 (1974), 457—466.
WALSH, E. H. C., The Coinage of Nepal, JRAS (1908), 669—759.

Walsh, E. H. C., Puri-Kushan Coins, JBORS 5 (1919), 73—79.

Walsh, E. H. C., Punch-marked Coins from Taxila, MemASI 59 (Delhi 1940).

Walsh, E. H. C., Paila Hoard of Punch-marked Coins, JNSI 2 (1940), 15—78.

Walsh, E. H. C., Examination of a Hoard of 105 Silver Punch-marked Coins Found in the United Provinces in 1916, JNSI 3 (1941), 1—8.

Walsh, E. H. C., A Comparative Study of the Patraha (Purnea) Hoard of Silver Punch-marked Coins, JNSI 3 (1941), 81—132.

Walsh, E. H. C., A Note on the Six Silver Punch-marked Coins Described by Babu Shri Nath Sah, JNSI 5 (1943), 13—16.

Walsh, E. H. C., Does the Bairat Hoard Contain a Post-Mauryan Punch-marked Coin?, JNSI 10.1 (1948), 17—21.

Wang, Gungwu, The Nanhai Trade, JMBRAS 31.2 (1958), 1—135.

Wang, Gungwu, Chinese Historians and the Nature of Early Chinese Foreign Relations, JOSA 3.2 (1965), 39—53.

Wang, Gungwu, 'Public' and 'Private' Overseas Trade in Chinese History, in: M. Mollat (ed.), Sociétés et compagnies de commerce en Orient et dans l'Océan Indien, Actes du 8^e Colloque Intern. d'Histoire Maritime (Beyrouth 5—10 Sept. 1966), Bibliothèque générale de l'École Pratique des Hautes Études (Paris 1970), 6^e Sec., 215—226.

Wang, Yü-ch'üan, An Outline of the Central Government of the Former Han Dynasty, HJAS 12 (1949), 134—187.

Wångstedt, S. V., Einige demotische Urkunden der Ostrakonsammlung im British Museum, OrSuec 12 (1963), 37—59.

Wångstedt, S. V., Demotische Steuerquittungen aus ptolemäischer Zeit, OrSuec 17 (1968), 28—60.

Ward-Perkins, J. B., The Roman West and the Parthian East, PBA (1965), 175—199.

Ward-Perkins, J. B., Frontiere politiche e frontiere culturali, in: La Persia e il mondo greco-romano (Roma 11—14 aprile 1965), Accademia Nazionale dei Lincei, Anno 363 (1966), Quaderno n. 76, 395—409.

Warmington, E. H., The Commerce between the Roman Empire and India^2 (London/New York 1974).

Warren, P., A Stone Vase-Maker's Workshop in the Palace at Knossos, ABSA 62 (1967), 195—201.

Waterhouse, H., and Simpson, R. H., Prehistoric Laconia, Part. I, ABSA 55 (1960), 67—107.

Watson, B., Ssu-ma Ch'ien: Grand Historian of China (New York 1958).

Watson, B., Records of the Grand Historian of China translated from the Shih-chi of Ssu-ma Ch'ien, 2 vols. (New York 1961).

Watson, G. R., The Birdoswald Hoard: the Pay and the Purse, Trans. Cumberland and Westmoreland Antiquarian and Archaeological Society n.s. 54 (1954), 61—65.

Watson, G. R., The Pay of the Roman Army: the Auxiliary Forces, Historia 8 (1959), 372—378.

Watson, W., The Genius of China: An Exhibition of Archaeological Finds of the Peoples Republic of China (London 1973).

Weaver, P. R. C., Augustorum Libertus, Historia 13 (1964), 188—198.

Weaver, P. R. C., Freedmen Procurators in the Imperial Administration, Historia 14 (1965), 460—469.

Weaver, P. R. C., Social Mobility in the Early Roman Empire: the Evidence of the Imperial Freedmen and Slaves, P&P 37 (1967), 3—20.

Weaver, P. R. C., Familia Caesaris. A Social Study of the Emperor's Freedmen and Slaves (Cambridge 1972).

Webb, M. C., The Flag Follows Trade: An Essay on the Necessary Interaction of Military and Commercial Factors in State Formation, in: J. A. Sabloff and C. C. Lamberg-Karlovsky (eds.), Ancient Civilization and Trade (Albuquerque 1975), 179—194.

Weber, E., Eine unbekannte Bezeichnung für eine wichtige Tätigkeit im Schiffsbau, ZPE 13.1 (1974), 18—20.

Weber, H., *Coae Vestes*, MDAI (I) 19/20 (1969/1970), 249—253.

Weber, M., General Economic History, translated from the German edition of 1923 (New York 1961).

Weber, S. H., An Egyptian Hoard of the Second Century A.D., NNM 59 (1932), 1—41.

Webster, G. (with D. B. Harden and C. H. V. Sutherland), The Legionary Fortress at Lincoln, JRS 39 (1949), 57—78.

Webster, T. B. L., Potter and Patron in Classical Athens (New York 1972).

Weidemann, K., Untersuchungen zur Kunst und Chronologie der Parther und Kushan vom 2. Jh. v. Chr. bis zum 3. Jh. n. Chr., JRGZM 18 (1971), 146—178.

Weiller, R., Un médaillon de l'empereur Lucius Verus, CENB 5 (1968), 11.

Weinberg, G. D., An Inlaid Glass Plate in Athens, JGS 4 (1962), 29—36.

Weinberg, G. D., *Vasa Diatreta* in Greece, JGS 6 (1964), 47—55.

Weinberg, G. D., Chronique archéologique: Jalamet el Asafna, RB 74 (1967), 88—90.

Weinberg, G. D., Hellenistic Glass from Tel Anafa in Upper Galilee, JGS 12 (1970), 17—27.

Weinberg, G. D., Tel Anafa: The Third Season, Muse 5 (1971), 8—16.

Weinberg, G. D., Notes on Glass from Upper Galilee, JGS 15 (1973), 45—51.

Weinberg, S. S., Tel Anafa: the Hellenistic Town, IEJ 21.2/3 (1971), 86—109.

Weinstein, M. E., and Turner, E. G., Greek and Latin Papyri from Qaṣr Ibrim, JEA 62 (1976), 115—130.

Weinstein, M. E., Copy of a Request for Registration of a Sale, in: A. E. Hanson (ed.), Collectanea Papyrologica, Texts Published in Honour of H. C. Youtie, vol. 1, Papyrologische Texte und Abhandlungen 19 (Bonn 1976), 381—405.

Welles, C. B., Royal Correspondence in the Hellenistic Period. A Study in Greek Epigraphy (London 1934).

Welles, C. B., Dura Parchment I, APF 16 (1958), 1—12.

Wellesley, C., Die Stadt Arsinoë (Krokodilopolis) in griechischer Zeit, SBAW 145 (1902), 4—51.

Wellesley, K., The Fable of a Roman Attack on Aden, PP 9 (1954), 401—405.

Wellesley, K., The Date of Composition of Tacitus, Annals II, RhM N.F. 98 (1955), 135—149.

Wells, C. M., The German Policy of Augustus (Oxford 1972).

Wenig, S., Bemerkungen zur Chronologie des Reiches von Meroe, MIO 13.1 (1967), 1—44.

Wenig, S., Nochmals zur 1. und 2. meroitischen Nebendynastie von Napata, Meroitica 1 (1973), 147—160.

Werner, J., Zur Stellung der Ordosbronzen, ESA 9 (1934), 259—269.

Werner, J., Ein hunnisches Lager der Han-Zeit in Transbaikalien, Sinica 14 (1939), 193—196.

Werner, J., Zu älterkaiserzeitlichen Glasbechern (Eggers Form 185—187), Germania 31 (1953), 61—64.

Wertheim, W. F., Early Asian Trade. An appreciation of J.C. van Leur, FEQ 13.2 (1954), 167—173.

West, J. M., Uranius (Ph. D. thesis, Harvard, unpublished), (Cambridge, Mass. 1973).

West, L. C., The Cost of Living in Roman Egypt, CPh 11 (1916) 293—314.

West, L. C., Phases of Commercial Life in Roman Egypt, JRS 7 (1917), 45—58.

West, L. C., Gold and Silver Coinage Standard in the Roman Empire, NNM 94 (New York 1941).

West, L. C., The Roman Gold Standard and the Ancient Sources, AJPh 62.3 (1941), 289—301.

West, L. C., and Johnson, A. C., Currency in Roman and Byzantine Egypt, Princeton University Studies in Papyrology 5 (Princeton 1944).

West, L. C., Ancient Money and Modern Commentators, ANSMN 6 (1954), 1—9.

Westermann, W. L., Komanos of the First Friends (187(?)—161 B.C.), APF 13 (1938), 1—12.

Wheatley, P., Belated Comments on Sir Ronald Braddell's Studies of Ancient Times in the Malay Peninsula, JMBRAS 28.1 (1955), 78—98.

Wheatley, P., Ch'ih-t'u, JMBRAS 30.1 (1957), 122—133.

Wheatley, P., Possible References to the Malay Peninsula in the Annals of the Former Han, JMBRAS 30.1 (1957), 115—121.

Wheatley, P., Geographical Notes on Some Commodities Involved in Sung Maritime Trade, JMBRAS 32 (1959), 5—140.

Wheatley, P., The Golden Khersonese. Studies in the Historical Geography of the Malay Peninsula before A.D. 1500 (Kuala Lumpur 1961).

Wheatley, P., Desultory Remarks on the Ancient History of the Malay Peninsula, in: J. Bastin and R. Roolvink (eds.), Malayan and Indonesian Studies. Essays presented to Sir Richard Winstedt on his eighty-fifth birthday (Oxford 1964), 33—75.

Wheatley, P., The Pivot of the Four Quarters. A Preliminary Enquiry into the Origins and Character of the Ancient Chinese City (Edinburgh 1971).

Wheatley, P., Analecta Sino-Africana Recensa, in: H. N. Chittick and R. I. Rotberg (eds.), East Africa and the Orient. Cultural Syntheses in Pre-Colonial Times (New York/London 1975), 76—114.

Wheeler, N. F., (ed.), Diary of the Excavation of Mirgissa Fort, Kush 9 (1961), 87—179.

Wheeler, R. E. M., Virampatnam, JGIS 11.2 (1944), 91—95.

Wheeler, R. E. M., Brahmagiri and Chandravalli 1947: Megalithic and Other Cultures in the Chitaldrug District, Mysore State, AI 4 (1947/48), 180—310.

Wheeler, R. E. M., Romano-Buddhist Art: an Old Problem Restated, Antiquity 23 (1949), 4—19.

Wheeler, R. E. M., Roman Contact with India, Pakistan and Afghanistan, in: W. F. Grimes (ed.), Aspects of Archaeology in Britain and Beyond (London 1951), 345—381.

Wheeler, R. E. M., Rome beyond the Imperial Frontiers (London 1954).

Wheeler, R. E. M., Chārsada. A Metropolis of the North-West Frontier (Oxford 1962).

Wheeler, R. E. M., Ghosh, A., and Deva, K., Arikamedu: An Indo-Roman Trading Station on the East Coast of India, AI 2 (1946), 17—124.

White, H. G. F., Graeco-Roman Ostraca from Dakka, Nubia, CR 33.3/4 (1919), 49—53.

White, H. G. F., and Oliver, J. H., The Temple of Hibis in El Khargeh Oasis, pt. 2: The Greek Inscriptions (New York 1939).

White, W .C., Byzantine Coins in China, ChJour 15 (1931), 10—12.

White, W. C., Byzantine Coins in China, Bulletin of the Royal Ontario Museum of Archaeology 10 (1931), 9—11.

White, W. C., Tombs of Old Lo-yang (Shanghai 1934).

White, W. C., Tomb Tile Pictures of Ancient China (Toronto 1939).

Whitehead, R. B., The Eastern Satrap Sophytes, NC 6 ser. 3 (1943), 60—72.

Whitehead, R. B., The Dynasty of the General Aspavarma, NC 6 ser. 4 (1944), 99—104.

Whitehead, R. B., Notes on the Indo-Greeks, Part. II, NC 6 ser. 7. 1/2 (1947), 28—51.

Whitehead, R. B., Notes on the Indo-Greeks, Part III, NC 6 ser. 10. 3/4 (1950), 205—232.

Whitehouse, D., Excavations at Sīrāf: First Interim Report, Iran 6 (1968), 1—22.

Whitehouse, D., Excavations at Sīrāf: Second Interim Report, Iran 7 (1969), 39—62.

Whitehouse, D., Excavations at Sīrāf: Third Interim, Report, Iran 8 (1970), 1—18.

Whitehouse, D., Excavations at Sīrāf: Fourth Interim Report, Iran 9 (1971), 1—17.

Whitehouse, D., Survey of Excavations: Sīrāf, Iran 9 (1971), 176—177.

Whitehouse, D., Sīrāf: a Sasanian Port, Antiquity 45 (1971), 262—267.

Whitehouse, D., and Williamson, A., Sasanian Maritime Trade, Iran 11 (1973), 29—49.

Wickersham, J. M., The Financial Prospects of Ptolemaic Oilmen, BASP 7. 2/3 (1970), 45—51.

Wickert, L., Die Flotte der römischen Kaiserzeit, Würzburger Jahrbücher f. d. Altertumswissenschaft 4 (1949/1950), 100—125.

Widemann, F., Une surfrappe de Gondophares sur Hermaios et une autre de Kozoulo Kadphises sur Gondophares qui apportent deux jalons numismatiques à la chronologie entre les Indo-Grecs et le début de l'empire Kouchan, BSFN 27.1 (1972), 147—151.

Widengren, G., Recherches sur le féodalisme iranien, OrSuec 5 (1956), 79—182.

Widengren, G., The Status of the Jews in the Sassanian Empire, Iranica Antiqua 1 (1961), 117—162.

Widengren, G., Die Begriffe 'Populorum Ordo' und 'Ram' als Ausdrücke der Standesgliederung im Partherreiche, in: Festschrift Walter Baetke dargebracht zu seinem 80. Geburtstag am 28. März 1964 (Weimar 1966), 380—391.

Wiegand, T. (ed.), Palmyra: Ergebnisse der Expeditionen von 1902 und 1917 (Berlin 1932).

Wielowiejski, J., Wplyw reform monetarnych w latach 63—215. Na przyjmowanie srebrnybch piediedzy rzymskich przez ludy polnocne, WN 13 (1969), 1/2. 1—19 (Eng. rés).

Wiethoff, B., The Ming-Policy of Maritime Prohibition, Cina 8 (1964), 59—60.

Wightman, E. M., Roman Trier and the Treveri (New York/Washington 1971).

Wilber, D. N., Iranian Motifs in Syrian Art, BAIIAA 5.1 (1937), 22—26.

Wilber, D. N., Preliminary Report on Takht-i-Sulayman: Summary Description of the Extant Structures, BAIIAA 5.2 (1937), 92—105.

Wilber, D. N., The Ruins at Rabat-i-Safid, BII 6.1/4—7.1 (1946), 22—28.

Wilbur, C. M., Slavery in China during the Former Han Dynasty, 206 B.C.—25 A.D., Field Museum of Natural History: Anthropological Series 34 (Chicago 1943).

Wilcken, U., Griechische Ostraka aus Ägypten und Nubien, 2 vols. (Leipzig/Berlin 1899).

Wilcken, U., Heidnisches und Christliches aus Ägypten, APF 1 (1901), 396—436.

Wilcken, U., Ein NOMOC ΤΕΛΩΝΙΚΟC aus der Kaiserzeit, APF 3.2 (1903/1906), 185—200.

Wilcken, U., Zum alexandrinischen Antisemitismus, ASAW 21 (1909), 783—839.

Wilcken, U., Alexander der Große und die hellenistische Wirtschaft, Schmollers Jahrbuch 45. 1—2 (1921), 45—116.

Wilcken, U., Punt-Fahrten in der Ptolemäerzeit, ZÄS 60 (1925), 86—102.

Wilcken, U., Zum Germanicus-Papyrus, Hermes 63 (1928), 68—65.

Wild, J. P., The Textile Term 'Scutulatus', CQ n.s. 14 (1964), 263—266.

Wild, J. P., A Roman Silk Damask from Kent, Archaeologia Cantiana 80 (1965), 246—250.

Wild, J. P., The *Gynaeceum* at Venta and its Context, Latomus 26.3 (1967), 648—676.

Wild, J. P., Clothing in the North-West Provinces of the Roman Empire, BJ 168 (1968), 166—240.

Wild, J. P., Textile Manufacture in the Northern Roman Provinces (Cambridge 1970).

Wilhelm, A., Drei griechische Epigramme aus Susa und aus Heliopolis-Baalbek, GöttNachr 1 (1935), 79—94.

Wilhelm, A., Papyrus Tebtunis 33, JRS 27 (1937), 145—151.

Wilhelm, F., Das Wirtschaftssystem des Kautalīya Arthaśāstra, JESHO 2 (1959), 294—312.

Wilhelm, F., Kanika and Kaniṣka-Aśvaghosa and Matrceta, in: A. L. Basham (ed.), Papers on the Date of Kaniṣka (Leiden 1968), 337—345.

Wilhelm, H., The Scholar's Frustration: Notes on a Type of Fu, in: J. K. Fairbanks (ed.), Chinese Thought and Institutions (Chicago 1957), 310—319.

Wilkinson, C. K., Nishapur: Pottery of the Early Islamic Period (New York 1976).

Wilkinson, J. S., Roman Coins from Egypt in the Royal Ontario Museum, Cornucopiae 3.1 (1975), 11—14.

Will, E., Le Relief de la Tour de Kithot et le Banquet funéraire à Palmyre, Syria 28 (1951), 70—100.

Will, E., Marchands et chefs de caravanes à Palmyre, Syria 34 (1957), 262—277.

Will, E., Histoire politique du monde hellénistique (323—330 av. J.C.), Annales de l'Est, nos. 30 and 32 (Nancy 1966/1967).

Willetts, W., Excavations at Bhambore near Karachi: Possible Site of the Merchant Seaport of Debal in Sind, Oriental Art n.s. 6.1 (1960), 25—28.

Willetts, W., Ceylon and China, TASSI (1960/62), 97—119.

Williams, A. R., and Maxwell-Hyslop, K. R., Ancient Steel from Egypt, JArchSc 3.4 (1976), 283—305.

Williams, E. T., The Worship of Leitsu, Patron Saint of Silk Workers, JRASNCB 67 (1936), 1—14.

Williams, Joana, The Iconography of Khotanese Painting, E&W n. s. 23. 1/2 (1973), 109—154.

Williams-Hunt, P. D. R., Recent Archaeological Discoveries in Malaya (1951), JMBRAS 25.1 (1952), 181—190.

Willrich, H., Der historische Kern des III. Makkabaeerbuches, Hermes 39 (1904), 244—258.

Wilson, C. R., Proposed Identification of the Name of an Andhra King in the Periplus, JASB 72. 3 (1904), 272—273.

Wilson, J. A., Buto and Hierakonpolis in the Geography of Egypt, JNES 14 (1955), 209—236.

Wilson, L. M., Ancient Textiles from Egypt in the University of Michigan Collection (Ann Arbor 1933).

Winckworth, C. P. T., A New Interpretation of the Pahlavi Cross Inscriptions of Southern India, JTS 30 (1929), 237—244 = KSP 3 ser. (1930), 159—164.

Winnett, F. V., Notes on the Lihyanite and Thamudic Inscriptions, Le Muséon 51 (1938), 299—310.

Winnett, F. V., The Place of the Minaeans in the History of Pre-Islamic Arabia, BASOR 73 (1939), 3—9.

Winnett, F. V., and Reed, W. L., An Archaeological-Epigraphical Survey of the Ha'il Area of Northern Saudi Arabia, Berytus 22 (1973), 53—113.

Winstedt, E. O., The Christian Topography of Cosmas Indicopleustes (Cambridge 1909).

Winstedt, R., A History of Malaya, JMBRAS 13.1 (Singapore 1935).

Winter, J. G., The Family Letters of Paniskos, JEA 13 (1927), 59—74.

Winter, J. G., and Youtie, H. C., Cotton in Graeco-Roman Egypt, AJPh 65 (1944), 249—258.

Winternitz, M., A History of Indian Literature, rev. translation by S. Ketkar; 3 vols. (Calcutta 1927—1933, repr. New York 1971).

Wipszycka, E., L'industrie textile dans l'Égypte romaine: matières premières et stades préliminaires, Archiwum filologicne 9 (Warsaw 1965).

Wipszycka, E., Das Textilhandwerk und der Staat im römischen Ägypten, APF 18 (1966), 1—22.

Wipszycka, E., Les impôts professionnels et la structure de l'industrie dans l'Égypte romaine. A propos de la κοπὴ τριχός, JJP 16/17 (1971), 117—130.

Wirth, G., Nearchos, der Flottenchef, Acta Conventus XI 'Eirene' 1968 (Warsaw 1971), 615—639.

Wiseman, D. J., Some Egyptians in Babylonia, Iraq 20 (1966), 154—158.

Wiseman, T. P., The Potteries of Vibienus and Rufrenus at Arretium, Mnemosyne 4 ser. 16.3 (1963), 275—383.

Wiseman, T. P., The Definition of 'Eques Romanus' in the Late Republic and Early Empire, Historia 19.1 (1970), 67—83.

Wiseman, T. P., New Men in the Roman Senate, 139 B.C.—A.D. 14 (Oxford 1971).

Wissmann, H. von, and Höfner, M., Beiträge zur historischen Geographie des vorislamischen Südarabien, AAWM (Mainz 1952), no. 4.

Wissmann, H. von, Geographische Grundlagen und Frühzeit der Geschichte Südarabiens, Saeculum 4.1 (1953), 61—113.

Wissmann, H. von, Die Südgrenze der Terra Cognita von Juba und Plinius bis Ptolemäus, Festschrift H. Kinzl, Schlern Schriften 190 (1958), 311—325.

Wissmann, H. von, Himyar, Ancient History, Le Muséon 77 (1964), 429—499.

Wissman, H. von, Zur Kenntnis von Ostarabien, besonders Al-Qaṭīf, im Altertum, Le Muséon 80 (1967), 489—511.

Witkowski, S., Epistulae privatae Graecae, quae in papyris aetatis Lagidarum servantur (Leipzig 1911).

Woelk, D., Agatharchides von Knidos, Über das Rote Meer, Übersetzung und Kommentar (Diss. Inaug. Bamberg 1966).

Wörrle, M., Ägyptisches Getreide für Ephesos, Chiron 1 (1971), 325—340.

Wolff, H., Zu den Bürgerrechtsverleihungen an Kinder von Auxiliaren und Legionaren, Chiron 4 (1974), 479—510.

Wolff, H. J., Registration of Conveyances in Ptolemaic Egypt, Aegyptus 28 (1948), 17—96.

Wolff, H. J., Neue juristische Urkunden, III. Beaufsichtigung des Sklavenhandels im römischen Ägypten: Die Anakrisis, ZSS 83 (1966), 340—349.

Wolska, W., La Topographie Chrétienne de Cosmas Indicopleustes, théologie et science au VI^{e} siècle, Bibliothèque Byzantine Études 3 (Paris 1962).

Wolski, J., Parthian and Iranian Titles in the Parchment no. 10 from Dura, JJP 7/8 (1953/1954), 285—294.

Wolski, J., Decay of the Iranian Empire of the Seleucids and the Chronology of the Parthian Beginnings, Berytus 12 (1956), 35—52.

Wolski, J., Aufbau und Entwicklung des parthischen Staates, in: Neue Beiträge zur Geschichte der Alten Welt (Berlin 1964), 379—388.

Wolski, J., Le rôle et l'importance des mercenaires dans l'état Parthe, Iranica Antiqua 5.2 (1965), 103—115.

Wolters, O. W., Early Indonesian Trade. A Study of the Origins of Srīvijaya (Ithaca 1967).

Wolters, O. W., The 'Po-ssu Pine Trees', BSOAS 23 (1960), 323—350.

Woolley, C. L., Excavations of Al Mina, Sueidia, JHS 58 (1938), 1—30, 133—170.

Wright, H. R. C., The Moluccan Spice Monopoly 1770—1824, JMBRAS 31.4 (1958), 1—116.

Wright, M. C., What's in a Reign Name? The Uses of Historical Philology, JAS 18.1 (1958), 103—106.

Wylie, A., History of the South-Western Barbarians and Chaou-Seen, intro. by H. H. Howorth, JRAI 9 (1880), 53—96.

Yadin, Y., An Inscribed South-Arabian Clay Stamp from Bethel?, BASOR 196 (1969), 37—45.

Yadin, Y., The Earliest Representation of a Siege Scene and a 'Scythian Bow' from Mari, IEJ 22.2/3 (1972), 89—94.

Yamasaki, Kazuo, Introductory Notes on the Ancient Glass of Japan, JGS 1 (1959), 87—88.

Yang, Lien-sheng, Notes on the Economic History of the Chin Dynasty, HJAS 9 (1946), 107—186.

Yang, Lien-sheng, Numbers and Units in Chinese Economic History, HJAS 12 (1949), 216—225.

Yang, Lien-sheng, Buddhist Monasteries and Four Money-Raising Institutions in Chinese History, HJAS 13 (1950), 174—191.

Yang, Lien-sheng, Notes on Dr. Swann's Food and Money in Ancient China, HJAS 13 (1950), 524—557.

Yang, Lien-sheng, Money and Credit in China (Cambridge, Mass. 1952).

Yang, Lien-sheng, Hostages in Chinese History, HJAS 15 (1952), 507—521 = Studies in Chinese Institutional History, Harvard-Yenching Institute Studies 20 (Cambridge 1961), 43—57.

Yang, Lien-sheng, An Inscribed Han Mirror Discovered in Siberia, TP 2 ser. 42 (1953), 330—340.

Yang, Lien-sheng, Notes on Maspero's 'Les documents Chinois de la troisième expédition de Sir Aurel Stein en Asie Centrale', HJAS 18 (1955), 142—158.

Yang, Lien-sheng, Government Control of Urban Merchants in Traditional China, THJCS n.s. 8 (1970), 186—206.

Yaron, R., Syro-Romana, Iura 17 (1966), 114—164.

Yavetz, Z., Reflections on Titus and Josephus, GRBS 16.4 (1975), 411—432.

Yazdani, G., Excavations at Koṇḍāpar: An Andhra Town (cir. 200 B.C. to 200 A.D.), ABORI 22 (1941), 171—185.

Yeo, C. A., Land and Sea Transportation in Imperial Italy, TAPhA 77 (1946), 221—244.

Yeo, C. A., The Development of the Roman Plantation and Marketing of Farm Products, Finanzarchiv N.F. 13 (1951/52), 321—342.

Yetts, W. Perceval, The Horse: A Factor in Early Chinese History, ESA 9 (1934), 231—255.

Yoneda, Kenjiro, Zen Kan no Kyōdo talsaku ni kansuru ni san no mondai Tōhōgaku 19 (1959), 28—40, cf. RBS (1959), no. 106.

Young, G. M., A New Hoard from Taxila (Bhir Mound), AI I (1946), 28—36.

Youtie, H. C., and Pearl, O., Note on P. Iand. VII.141, AJPh 57 (1936), 465—469.

Youtie, H. C., Parerga Papyrologica, TAPhA 78 (1947), 105—122.

Youtie, H. C., Publicans and Sinners, ZPE 1 (1967), 1—20.

Youtie, H. C., Greek Ostraca from Egypt. TAPhA 81 (1950), 99—116 = Scriptiunculae 1 (Amsterdam 1973), 213—233.

Youtie, H. C., A Problem in Graeco-Roman Bookkeeping, ZPE 15.2 (1974), 117—121.

Youtie, H. C., ΑΠΑΤΟΡΕΣ: Law vs. Custom in Roman Egypt, in: J. Bingen, G. Cambier and G. Nachtergael (eds.), Le monde grec. Pensée, littérature, histoire, documents. Hommages à Claire Préaux (Bruxelles 1975), 723—740.

Youtie, H. C., Three Medical Prescriptions for Eye-Salves P. Mich. inv. 482, in: J. Bingen, G. Cambier and G. Nachtergael (eds.), Le monde grec. Pensée, littérature, histoire, documents. Hommages à Claire Préaux (Bruxelles 1975), 555—563.

Yoyotte, J., Études géographiques, II. Les localités méridionales de la région Memphite et le 'Pehou d'Heracléopolis', Rev. d'Egypt 14 (1962), 75—111.
Yoyotte, J., Les inscriptions hiéroglyphiques. Darius et l'Égypte, JA 260 (1972), 253—266.
Yoyotte, J., Les inscriptions hiéroglyphiques égyptiennes de la statue de Darius, CRAI (1973), 256—259.
Yoyotte, J., Les inscriptions hiéroglyphiques de la statue de Darius à Suse, CDAFI 4 (1974), 181—183.
Yu Yen-wen, Han Tombs at Mancheng, in: New Archaeological Finds in China (Peking 1973), 14—20.
Yü, Ying-shih, Life and Immortality in the Mind of Han China, HJAS 25 (1964—1965), 80—122.
Yü, Ying-shih, Trade and Expansion in Han China (Berkeley 1967).
Yün-nan Chin-ning shih-chia-shan ku-mu ch'ün fa-chüeh pao-kao, 2 vols. (Peking 1959).
Yule, H., Cathay and the Way Thither, vol. 1^2, The Hakgluyt Society 2 ser. 38 (London 1915).

Zabelina, N. N., Novaia monetas legendoi ΒΑΣΙΛΕΩΣ ΕΥΘΥΔΗΜΟΥ, KSIIMK 28 (1949), 101—102.
Zadneprovskii, I. A., Gorodishche Shurabashat, KSIIMK 71 (1958), 99—108.
Zadneprovskii, I. A., Drevnezem ledel'cheskaia kul'tura Fergany, MIA 118 (Moscow/Leningrad 1962).
Zainie, C. (with T. Harrisson), Early Chinese Stonewares Excavated in Sarawak, 1947 to 1967: A Suggested First Basic Classification, SMJ 15 (1967), 30—90.
Zakharov, A. A., Antiquities of Katanda (Altai), JRAI 55 (1925), 37—57.
Zakharov, A. A., Materials on the Archaeology of Siberia, ESA 3 (1928), 132—140.
Zamir-Dahncke, M. R., Eine unbekannte elymäische Münze, AMI N.F. 8 (1975), 141—142.
Zamotorin, I. M., Otnositel'naia Chronologiia Pazyrykskich kurganov, SA 29 (1959), 21—30.
Zasetskaia, I. P., Osobennosti pogrebal'nogo obriada gunnskoi epokhi na territorii stepei Nizhnego Povolzh'ia i Severnogo Prichernomor'ia, AS 13 (1971), 61—72.
Zawadzki, T., Un nouveau *praefectus castrorum* en Égypte de deux obélisques érigés par un centurion, CE 44 (1969), 106—117.
Zayadine, F., Une tombe nabatéenne près de Dhat-Râs (Jordanie), Syria 47 (1970), 117—135.
Zayed, A.-H., Some Antiquities Found at el Minchah in 1959, ASAE 57 (1962), 131—136.
Zeimal, E. V., Klad rimskikh denariev iz Tadzhikistana, NE 3 (1962), 141—146.
Zeimal, E. V., Problema kushanskoi khronologii i monety, in: Tezisy dokladov na Iubileinai nauchnoi sessii (Leningrad 1964), 40—46.
Zeimal, E. V., Nachal'naia data Kanishki —278 g.n.e., in: Proceedings of the International Conference on the History, Archaeology and Culture of Central Asia in the Kushan Period, Dushanbe September 27—October 6, 1968 (Moscow 1974), 292—301.
Zhukov, V. D., Nakhokka sestertsiia Nerona v kushanskom sloe v Iuzhnom Uzbekistane, EV 13 (1960), 125—127.
Zhukov, V. D., Arkhelogicheskaia razvedka na shakhristane Khairabad-Tepe, IMKUz 2 (1961), 177—191.
Ziebarth, E., Hellenistische Banken, ZfN 34 (1924), 36—50.
Ziebarth, E., Beiträge zur Geschichte des Seeraubs und Seehandels im alten Griechenland (Hamburg 1929).
Ziegler, K.-H., Die Beziehungen zwischen Rom und dem Partherreich: Ein Beitrag zur Geschichte des Völkerrechts (Wiesbaden 1964).
Zimmermann, E., Alte Textilien: Eine Auswahl aus den Beständen des Badischen Landesmuseums (Karlsruhe 1957).
Zingerle, J., Römisch-Militärisches aus Ägypten, APF 9 (1930), 5—13.
Zograf, A. N., Monety Geraia (Tashkent 1937).
Zouhdi, B., Les verres conservés au département des antiquités syriennes des époques grecque, romaine et byzantine du Musée National de Damas, BJIV 3 (1964), 41—54.
Zucker, F., Urkunde aus der Kanzlei eines römischen Statthalters von Ägypten in Originalausfertigung, SPAW 34 (1910), 710—730.

Zucker, F., Mitteilung über eine kürzlich gefundene griechisch-aramäische Bilingue des Königs Aśoka, AAntHung 7 (1959), 103—106.

Zucker, F., Verfahrensweisen in der Einführung gewisser Einrichtungen des Augustus in Ägypten, RIDA 3 ser. 8 (1961), 155—164.

Zuri, N., A Hoard of Bronze and Silver Coins from Ain Hanaziv, INB 3/4 (1962), 105—106.

Zuri, N., A Hoard of 257 Roman Silver Coins from Bet-Gobrin, INB 3/4 (1962), 106.

Zygman, E., A Tetradrachm of Azes II Struck at Sāngala–Euthydemia, ANSMN 7 (1957), 51—56.

II. Abbreviations

1. Journals and Monograph Series

(Note: This list also contains shorter periodical titles in cases where there presently are or have been in the past other publications with identical titles.)

AA	Archäologischer Anzeiger.
AAAG	Annals of the Association of American Geographers.
AAntHung	Acta Antiqua Academiae Scientiarum Hungaricae.
AArchHung	Acta Archaeologica Academiae Scientiarum Hungaricae.
AAS	Annales Archéologiques de Syrie, or sometimes: Annales Archéologiques Arabes Syriennes, Revue d'Archéologie et d'Histoire (Damascus).
AASOR	Annual of the American Schools of Oriental Research.
AAT	Atti della Accademia delle Scienze di Torino, Classe di Scienze morali, storiche e filologiche.
AAWG	Abhandlungen der Akademie der Wissenschaften, Göttingen.
AAWM	Abhandlungen der Akademie der Wissenschaften und der Literatur, Mainz, Geistes- und sozialwissenschaftliche Klasse.
AAWW	Anzeiger der Österreichischen Akademie der Wissenschaften in Wien, Philos.-Hist. Klasse.
ABAW	Abhandlungen der Bayerischen Akademie der Wissenschaften, Philos.-Hist. Klasse.
Abba Salama	Abba Salama: A Review of the Association of Ethio-Hellenic Studies.
AbhAWW Geist.-Soz. Kl.	Abhandlungen der Österreichischen Akademie der Wissenschaften in Wien, Geistes- und sozialwissenschaftliche Klasse.
AbhDAI(K) Ägypt. Reihe	Abhandlungen des Deutschen Archäologischen Instituts (Kairo Abteilung), Ägypt. Reihe.
ABIA	Annual Bibliography of Indian Archaeology (Kern Institute, Leiden).
ABORI	Annals of the Bhandarkar Oriental Research Institute (Poona).
ABret	Annales de Bretagne, Rennes.
Abr-Nahrain	Abr-Nahrain (University of Melbourne, Dept. of Semitic Studies).
ABSA	Annual of the British School at Athens.
AC	L'Antiquité Classique.
ACASA	Archives of the Chinese Art Society of America.
ACD	Acta Classica Universitatis Scientiarum Debreceniensis.
AcIr	Acta Iranica.
Acme	Acme. Annali della Facoltà di Filosofia e Lettere dell'Università Statale di Milan.
AcOr	Acta Orientalia.
Acta Asiatica	Acta Asiatica. Bulletin of the Institute of Eastern Culture.
AD	᾿Αρχαιολογικὸν Δελτίον.
ADAJ	Annual of the Department of Antiquities, Jordan.

ADAW	Abhandlungen der Deutschen Akademie der Wissenschaften zu Berlin, Klasse für Sprachen, Literatur und Kunst.
Aegyptus	Aegyptus. Rivista Italiana di Egittologia e di Papirologia.
AErt	Archaeologiai Ertesitö.
Afghanistan	Afghanistan (Kabul).
AFIB	Anjoman Farhang Iran Bastan (The Ancient Iranian Cultural Society Bulletin).
AfK	Archiv für Kulturgeschichte (Berlin/Leipzig).
AFLA	Annales de la Faculté des Lettres et Sciences humaines d'Aix.
AfrBull	Africana Bulletin.
AfrHistStud	African Historical Studies (African Studies Center of Boston University.
AfrSB	African Studies Bulletin.
AfrSt	African Studies. Quarterly Journal Devoted to the Study of African Cultures, Government and Languages.
AfrStRev	African Studies Review.
Africa Italiana	Africa Italiana. Rivista di Storia e d'Arte.
AfV	Archiv für Völkerkunde
AHR	American Historical Review.
AI	Ancient India. Bulletin of the Archaeological Survey of India.
AIB	Arkhelogiia i Istoriia Bospora, Sbornik Statei (Simferopol′).
AIIN	Annali dell'Istituto Italiano di Numismatica.
AION	Annali dell'Istituto Orientale di Napoli.
AIPHO(S)	Annuaire de l'Institut de philologie et d'histoire orientales (et slaves) de l'Université Libre, Bruxelles.
AJA	American Journal of Archaeology.
AJAH	American Journal of Ancient History.
AJPh	American Journal of Philology.
AJSLL	American Journal of Semitic Languages and Literature.
AK	Archäologisches Korrespondenzblatt: Urgeschichte, Römerzeit, Frühmittelalter (Römisch-germanisches Zentral Museum, Mainz).
Altertum	Altertum (Akademie der Wissenschaften, Berlin, Sektion für Altertumswissenschaften).
AM	Asia Major.
AMAMB	Allen Memorial Art Museum Bulletin (Oberlin College).
AmerAnthro	American Anthropologist.
The American Neptune	The American Neptune. A Quarterly Journal of Maritime History (Salem, Miss.).
AMG	Annales, Musée Guimet (Paris).
AMGRA	Annuaire, Musée gréco-romain, Alexandria (Egypt).
AMI	Archäologische Mitteilungen aus Iran.
AMN	Acta Musei Napocensis.
AnalBoll	Analecta Bollandiana.
Analytical Chemistry	Analytical Chemistry (American Chemical Society, Washington).
Anatolica	Anatolica. Annuaire International pour les Civilisations de l'Asie Anterieure (Institut Historique et Archéologique Neerlandais à Istanbul).
Ancient Egypt	Ancient Egypt and the East (British School of Archaeology in Egypt).
Ancient Pakistan	Ancient Pakistan (Peshawar University, Dept. of Archaeology).
AncSoc	Ancient Society.
Annales d'Éthiopie	Annales d'Éthiopie (Section d'Archéologie du Gouvernement imperiale d'Éthiopie).
Annales (ESC)	Annales (Économie, Sociétés, Civilisations).
Annales Islamologiques	Annales Islamologiques (IFAO, Cairo).

ANRW	Aufstieg und Niedergang der Römischen Welt. Geschichte und Kultur Roms im Spiegel der Neueren Forschung, hrsg. von H. Temporini—W. Haase (Berlin/New York 1972 ff.).
ANSMN	American Numismatic Society Museum Notes.
AnSt	Anatolian Studies. Journal of the British Institute of Archaeology at Ankara.
AntAfr	Antiquités africaines.
Anthropos	Anthropos. Revue internationale d'ethnologie et de linguistique.
Antiquitas	Antiquitas.
Antiquity	Antiquity. A Quarterly Review of Archaeology.
AntJ	The Antiquaries Journal. Journal of the Society of Antiquaries of London.
AO	Arkheologicheskie otkrytiia (Moscow).
AOF	Archiv für Orientforschung.
AOrientHung	Acta Orientalia Academiae Scientiarum Hungaricae.
AOS	American Oriental Series (American Oriental Society).
AP	Asian Perspectives (Far Eastern Prehistory Association).
APAMNH	Anthropological Papers of the American Museum of Natural History.
APAO	Archaeology and Physical Anthropology of Oceania.
APAW	Abhandlungen der Preußischen Akademie der Wissenschaften, Philos.-hist. Klasse.
APF	Archiv für Papyrusforschung und verwandte Gebiete.
APhA	American Philological Association.
AR	Asiatic Review.
Arabica	Arabica, Revue d'Études Arabes (Leiden).
Archaeologia	Archaeologia or Miscellaneous Tracts Relating to Antiquity.
Archäolog. Korrespondenzblatt	Archäologisches Korrespondenzblatt. Urgeschichte, Römerzeit, Frühmittelalter. Herausgegeben vom Römisch-Germanischen Zentralmuseum Mainz.
Archaeology	Archaeology. A Magazine Dealing with the Antiquity of the World.
Archaeometry	Archaeometry (Oxford University, Research Laboratory for Archaeology and the History of Art).
ArchClass	Archeologia Classica. Rivista dell'Istituto di Archeologia dell'Universita di Roma.
Archéologia	Archéologia (Paris)
ArchErt	Archaeologiai Ertesitö (Budapest).
ArchOr	Archiv Orientální.
Archives of Asian Art	Archives of Asian Art (replaced: Archives of the Chinese Art Society of America in 1966).
Archiv f. lat. Lexicogr.	Archiv für lateinische Lexicographie und Grammatik mit Einschluß des älteren Mittellateins als Vorarbeit zu einem Thesaurus linguae Latinae, hrsg. von E. Wölfflin (Leipzig 1884—1908).
Archiv f. Völkerkunde	Archiv für Völkerkunde (Vienna, Museum für Völkerkunde).
Archiw filologiczne	Archiw filologiczne (Warzaw).
Arctic Anthropology	Arctic Anthropology (Dept. of Anthropology University of Wisconsin).
Aréthuse	Aréthuse. Revue trimestrielle d'art et archéologie.
ArsIs	Ars Islamica.
Ars Orientalis	Ars Orientalis. The Arts of Islam and the East.
ArSt	Arabian Studies.
The Art Bulletin	The Art Bulletin. A Quarterly Published by the College Art Association of America.
Le Arti	Le Arti (Florence).
Artibus Asiae	Artibus Asiae (Ancona).
ArtsA	Arts Asiatiques (Musée Guimet, Paris), (supercedes: Revue des Arts Asiatiques).

AS	Arkheologicheskii sbornik Gos. Ermitazha (Leningrad).
ASAE	Annales du Service des Antiquités d'Égypte.
ASAW	Abhandlungen der Sächsischen Akademie der Wissenschaften, Leipzig, Philologisch-historische Klasse.
ASB AnRep	Archaeological Survey of Burma, Annual Report.
Asia Major	Asia Major. A British Journal of Far Eastern Studies (London).
ASI AnRep	Archaeological Survey of India, Annual Report.
Asiatica	Asiatica. Bolletino, Istituto italiano per il medio ed estremo oriente (Rome).
ASP	American Studies in Papyrology.
AsSt	Asiatische Studien. Schweizerische Gesellschaft für Asienkunde (Bern).
Āthār-e Iran	Āthār-e Iran. Annales du Service archéologiques de l'Iran.
Athenaeum	Athenaeum. Studi periodici di Letteratura e Storia dell'Antichita (Pavia).
Azania	Azania (British Institute of History and Archaeology in East Africa).

BAA	Bulletin d'Archéologie algérienne.
BAFAO	Bulletin, Association française des Amis de l'Orient.
BAH	Bibliothèque Archéologique et Historique, Institut françaises d'Archéologie de Beyrouth.
BAIHA	Bulletin of Ancient Indian History and Archaeology.
BAIIAA	Bulletin of the American Institute for Iranian Art and Archaeology.
BAIPAA	Bulletin of the American Institute of Persian Art and Archaeology.
BAIPU	Bulletin of the Asia Institute of Pahlavi University.
BAM	Bulletin de l'Académie Malgàche.
BAMar	Bulletin d'Archéologie Marocaine (Service des Antiquités du Maroc), Casablanca.
BARB	Bulletin Academie Royale de Belgique: Classe des Lettres.
BASOR	Bulletin of the American Schools of Oriental Research in Jerusalem and Baghdad.
BASP	Bulletin of the American Society of Papyrologists.
BBA	Berliner Byzantinistische Arbeiten (Institut für Griechisch-Römische Altertumskunde, Deutsche Akademie der Wissenschaften zu Berlin).
BBCS	Bulletin of the Board of Celtic Studies.
BCH	Bulletin de Correspondence Hellénique.
BCMA	Bulletin of the Cleveland Museum of Art.
BCO	Bibliotheca Classica Orientalis. Dokumentation der altertumswiss. Literatur der Sowjetunion und der Länder der Volksdemokratien.
BCRI	Bulletin of the Cultural Research Institute (India).
BDAGU	Bulletin of the Department of Anthropology, Gauhati University.
BDCRI	Bulletin of the Deccan College Research Institute.
BdM	Bibliothèque du Muséon (Institut Orientaliste Université de Louvain).
BEA	Bulletin of Eastern Art.
BEFAR	Bibliothèque des Écoles Françaises d'Athènes et Rome (Paris).
BEFEO	Bulletin d'École Française d'Extrême-Orient.
BEIFAO	Bibliothèque d'Études, Institut Française d'Archéologie Orientale.
BEO	Bulletin d'Études Orientales.
BerMus	Berliner Museen. Berichte aus den Staatlichen Museen des preußischen Kulturbesitzes.
Berytus	Berytus. Archaeological Studies Published by the Museum of Archaeology of the American University of Beirut.

BfM	Blätter für Münzfreunde.
BFS	Bulletin de la Faculté des Lettres de Strasbourg.
Bhārati	Bhārati (College of Indology, Hindu University, Banares).
Bhāratīya Vidyā	Bhāratīya Vidyā. A Quarterly Research Organ of the Bhāratīya Vidyā Bhavan (Bombay).
BHF	Bonner Historische Forschungen
BHM	Bulletin of the Historical Metallurgy Group (Iron and Steel Institute, London).
BHR	Bibliotheca Helvetica Romana (Schweizerisches Institut in Rom).
BIAL	Bulletin of the Institute of Archaeology, London.
BibArch	Biblical Archaeologist.
Biblica	Biblica (Pontifical Biblical Commission, Rome).
BICS	Bulletin of the Institute of Classical Studies, London.
BIEAS	Bulletin of the Institute of Ethnology, Academia Sinica.
BIFAN	Bulletin, Institut Française d'Afrique Noire.
BIFAO	Bulletin de l'Institut Française d'Archéologie Orientale (Cairo).
BII	Bulletin of the Iranian Institute.
BiOr	Bibliotheca Orientalis.
BJ	Bonner Jahrbücher des Rheinischen Landesmuseums in Bonn und des Vereins von Altertumsfreunden im Rheinlande.
BJIV	Bulletin des Journées internationales du Verre.
BJRL	Bulletin of the John Rylands Library.
BKI	Bijdragen tot de Taal-, Land-, en Volkenkunde van Nederlandsch-Indie (Koninklijk Instituut voor Taal-, Land-, en Volkenkunde van Nederlandsch-Indie (The Hague).
BKSGW	Berichte über die Verhandlungen der Königlichen Sächsischen Gesellschaft der Wissenschaften zu Leipzig, Philol.-hist. Klasse.
BLCIETA	Bulletin de Liaison du Centre International d'Étude des Textiles Anciens.
BMAUP	Bulletin of the Museums and Archaeology in Uttar Pradesh.
BMB	Bulletin du Musée de Beyrouth.
BMFAB	Bulletin of the Museum of Fine Arts in Boston.
BMFEA	Bulletin of the Museum of Far Eastern Antiquities (Stockholm).
BMGM	Bulletin of the Madras Government Museum.
BMJ	Brunei Museum Journal.
BMMA	Bulletin of the Metropolitan Museum of Art (New York).
BMPGB	Bulletin of the Museum and Picture Gallery, Baroda.
BMQ	British Museum Quarterly.
BMRAH	Bulletin des Musées royaux d'art et d'histoire.
BNBC	Bulletin of the Needle and Bobbin Club (New York).
Boll d'Arte	Bollettino d'Arte del Ministero della Pubblica Istruzione (Rome).
BPWM	Bulletin of the Prince of Wales Museum of Western India (Bombay).
BRGK	Bericht der römisch-germanischen Kommission des deutschen archäologischen Instituts.
Britannia	Britannia. A Journal of Romano-British and Kindred Studies.
BRM	Bulletin of the Raffles Museum.
BSAF	Bulletin de la Société Nationale des Antiquaires de France.
BSEI	Bulletin, Société des Études indo-chinoises de Saigon.
BSEM	Boletim da Sociedad de Estudos de Moçambique.
BS(R)AA	Bulletin de la Société (Royale) d'Archéologie d'Alexandrie.
BSFN	Bulletin de la Société Française de Numismatique.
BSO(A)S	Bulletin of the School of Oriental (and African) Studies (London University).
BUA	Bulletin de l'Université de l'Aurore (Shanghai).

BudSt	Buddhist Studies, Journal of the Department of Buddhist Studies, University of Delhi.
BUMP	Bulletin of the University Museum, Philadelphia.
BSRGE	Bulletin, Société Royale de Géographie d'Égypte.
BullSoc d'Arch Copte	Bulletin, Société d'Archéologie Copte (Cairo).
BurlMag	Burlington Magazine.
Byzantion	Byzantion, Revue Internationale des Études Byzantines.
BZ	Byzantinische Zeitschrift.
CA	Current Anthropology.
CAH	Cambridge Ancient History.
Cahiers de Byrsa	Cahiers de Byrsa (Tunis, Musée Lavigerie).
CAJ	Central Asiatic Journal.
CAR	Central Asian Review (Central Asian Research Centre, London).
Carnuntum	Carnuntum-Jahrbuch. Römische Forschungen in Niederösterreich, Beiheft.
CDAFI	Cahiers de la Délégation archéologique française en Iran.
CE	Chronique d'Égypte.
CENB	Cercle d'Études Numismatiques, Bulletin.
Ceylon Jour. of Sc.	Ceylon Journal of Science.
CHHP	Ch'ing-hua hsüeh-pao (Ts'ing-hua Journal of Chinese Studies, Taipei).
Chiron	Chiron. Mitteilungen der Kommission für Alte Geschichte und Epigraphik des Deutschen Archäologischen Instituts.
CHJ	Ceylon Historical Journal.
ChJour	The China Journal.
CHM	Cahiers d'Histoire Mondiale.
Cina	Cina (Istituto italiano per il Medio ed Estremo Oriente, Rome).
CJ	Classical Journal.
C&M	Classica et Mediaevalia. Revue danoise d'Histoire et de Philologie.
CN&V	Classical News and Views.
ConIA	Contributi dell'Istituto di Archeologia di Milan.
Cornucopiae	Cornucopiae, Journal of the Ancient Coin Society (Toronto).
CPANS	Centennial Publication of the American Numismatic Society, ed. H. INGHOLT (New York 1958).
CPh	Classical Philology.
CQ	Classical Quarterly.
CR	Classical Review.
CRAI	Comptes rendus de l'Academie des Inscriptions et Belles-Lettres (Paris).
CRev	Ciba Review.
CSCA	California Studies in Classical Antiquity.
CSPSR	Chinese Social and Political Science Review (Peking).
CT	Les Cahiers de Tunisie.
Current Science	Current Science. Science in the making (Indian Institute of Science).
Dacia	Dacia. Revue d'Archéologie et d'Histoire ancienne.
DANUzSSR	Doklady Akademii nauk Uzbekskoi SSR (Tashkent).
DArch	Dialoghi di Archeologia.
DAWW	Denkschriften der Österreichischen Akademie der Wissenschaften, Philosophisch-historische Klasse.
DOP	Dumbarton Oaks Papers.
EAGR	East Africa Geographic Review.
Economica	Economica (London School of Economics and Political Science).

EH	Economic History (Royal Economic Society).
EHR	Economic History Review.
Eos	Eos. Commentarii Societatis Philologiae Polonorum.
EPap	Études de Papyrologie.
Epigraphica	Epigraphica. Rivista Italiana di Epigrafia.
EpInd	Epigraphia Indica.
Eranos	Eranos. Acta Philologica Suecana.
ESA	Eurasia Septentrionalis Antiqua.
ESAR	An Economic Survey of Ancient Rome, ed. T. FRANK (Baltimore 1933—1940).
EV	Epigrafika Vostoka.
E&W	East and West. Quarterly Journal of the Istituto Italiano per il Medio ed Estremo Oriente.
Expedition	Expedition. Bulletin of the University Museum of the University of Pennsylvania.
FEQ	Far Eastern Quarterly.
Finanz.	Finanzarchiv.
FMJ	Federation Museums Journal (Museums Dept., Federation of Malaya).
Folk	Folk. Journal of the International Association for Folklore and Ethnology.
FuF	Forschungen und Fortschritte (Berlin).
GA	Geografiska Annales.
GAF	Göttinger Asiatische Forschungen. Monographienreihe zur Geschichte, Sprache und Literatur der Völker Süd-, Ost- und Zentralasiens.
Gallia	Gallia. Fouilles et Monuments Archéologiques en France métropolitaine.
Germania	Germania. Anzeiger der Röm.-Germ. Kommission des Deutschen Archäologischen Instituts.
GGA	Göttingische Gelehrte Anzeigen.
GJ	Geographical Journal.
Gn	Gnomon. Kritische Zeitschrift für die gesamte klassische Altertumswissenschaft.
GöttNachr	Nachrichten von der Gesellschaft der Wissenschaften in Göttingen, Philologisch-historische Klasse.
GR	Geographical Review.
G&R	Greece and Rome.
GRBS	Greek, Roman and Byzantine Studies.
GRM	Graeco-Roman Memoirs, Egypt Exploration Society (London).
Gymnasium	Zeitschrift für Kultur der Antike und humanistische Bildung (Heidelberg).
H	Hermes. Zeitschrift für klassische Philologie.
HA	History in Africa. A Journal of Method.
Habis	Habis. Arqueología, Filología clásica (Sevilla).
HBN	Hamburger Beiträge zur Numismatik (Hamburg).
Hellenica	Hellenica. Recueil d'épigraphie, de numismatique et d'antiquités grecques publié par LOUIS ROBERT.
Hermeneus	Hermeneus. Tijdschrift voor de antieke Cultur.
Hesperia	Hesperia. Journal of the American School of Classical Studies at Athens.
Historia	Historia. Revue d'Histoire ancienne (Wiesbaden).
History Today	History Today (London).
HJAS	Harvard Journal of Asiatic Studies.

HSCPh	Harvard Studies in Classical Philology.
HTR	Harvard Theological Review.
IA	Iranica Antiqua (Leiden).
IAC	Indo-Asian Culture.
IAI	Izvestia na Arkheologicheskiia Institut (Sofia).
IAL	(Indian) Art and Letters (Royal India and Pakistan Society).
IANSSSR ser. istorii i filosofii	Izvestiia Akademii nauk SSSR ser istorii i filosofii (Moscow).
IANTSSR	Izvestiia Akademii Nauk Turkmenskoi SSR, seriia Obshchestvennykh Nauk.
IAR	Indian Archaeology: A Review (Archaeological Survey of India).
IC	Indian Culture (Indian Research Institute, Calcutta).
IEJ	Israel Exploration Journal.
IESHR	Indian Economic and Social History Review.
IFAO	Institute Française d'Archéologie Orientale (Cairo).
IFZh	Istoriko-filologicheskii zhurnal (Akad. nauk Armianskoi SSR, Erevan).
IGAIMK	Izvestiia Gos. Akademii istorii material'noi kul'tury.
IHQ	Indian Historical Quarterly.
IIJ	Indo-Iranian Journal.
IJAHS	International Journal of African Historical Studies.
IJNA	International Journal of Nautical Archaeology and Underwater Exploration.
Imago Mundi	Imago Mundi. A Review of Early Cartography.
IMKUz	Istoriia material'noi kul'tury Uzbekistana (Tashkent).
INB	Israel Numismatic Bulletin.
INC	Indian Numismatic Chronicle.
IndAr	Indian Archives.
Indonesia	Indonesia (Djakarta).
INJ	Israel Numismatic Journal.
IOONANTadzhSSR	Izvestiia Otdeleniia obshchestvennykh nauk (AN Tadzh. SSR), Dushanbe.
IOS	Israel Oriental Series.
Iran	Iran. Journal of the British Institute of Persian Studies.
Iraq	Iraq. British School of Archaeology in Iraq (London).
Isis	Isis. International Review Devoted to the History of Science and its Cultural Influences.
Islam	Islam. Zeitschrift für Geschichte und Kultur des islamischen Orients.
ISPP	Indian Studies Past and Present.
Iura	Iura. Rivista internazionale di Diritto romano e antico (Naples).
JA	Journal Asiatique.
JAAS	Journal of Asian and African Studies.
JAfH	Journal of African History.
JAH	Journal of Asian History (Wiesbaden)
Jahrb. f. class. Philol.	Jahrbücher für classische Philologie (becomes: Neue Jahrbücher für Philologie und Paedagogik).
Jahrb. f. Nat. u. Stat.	Jahrbücher für Nationalökonomie und Statistik.
JAHRS	Journal of the Andhra Historical Research Society.
JAIH	Journal of Ancient Indian History.
JANES	Journal of the Ancient Near Eastern Society of Columbia University.
Janus	Janus. Arbeiten zur alten und byzantinischen Geschichte.
JAOS	Journal of the American Oriental Society.
JARCE	Journal of the American Research Center in Egypt.

JArchSc	Journal of Archaeological Science.
JAS	Journal of Asian Studies.
JASB	Journal of the Asiatic Society of Bengal (Calcutta).
JASBang	Journal of the Asiatic Society of Bangladesh.
JASP	Journal of the Asiatic Society of Pakistan.
JBBRAS	Journal of the Bombay Branch of the Royal Asiatic Society.
JBHMB	Jahrbuch des Bernischen Historischen Museums zu Bern.
JBL	Journal of Biblical Literature.
JBORS	Journal of the Bihar and Orissa Research Society.
JBRS	Journal of the Burma Research Society.
JCBRAS	Journal of the Ceylon Branch of the Royal Asiatic Society.
JCOI	Journal of the K. R. Cama Oriental Institute.
JCS	Journal of Cuneiform Studies.
JDAI	Jahrbuch des Deutschen Archäologischen Instituts.
JEA	Journal of Egyptian Archaeology.
JEBH	Journal of Economic and Business History.
JEEH	Journal of European Economic History.
JEH	Journal of Economic History.
JES	Journal of Ethiopian Studies.
JESHO	Journal of the Economic and Social History of the Orient.
JFMSM	Journal of the Federated Malay States Museum.
JGIS	Journal of the Greater India Society.
JGS	Journal of Glass Studies.
JHKBRAS	Journal of the Hong Kong Branch of the Royal Asiatic Society.
JHS	Journal of Hellenic Studies.
JHSN	Journal of the Historical Society of Nigeria.
JIAN	Journal International d'Archéologie Numismatique.
JIH	Journal of Indian History.
JIM	Journal of Indian Museums.
Jimbun kenkyu	Jimbun kenkyu (Studies in the Humanities), (Osaka).
JISI	Journal of the Iron and Steel Institute (London).
JITH	Journal of Indian Textile History.
JJP	Journal of Juristic Papyrology.
JKBGKW	Jaarboek, Koninklijk Bataviaasch Genootschap van Kunsten en Wetenschappen.
JKF	Jahrbuch für kleinasiatische Forschung.
JKSW	Jahrbuch der kunsthistorischen Sammlungen, Wien.
JMBRAS	Journal of the Malayan Branch of the Royal Asiatic Society (Kuala Lumpur).
JMP	Jaarboek voor Munt en Penningkunde.
JNES	Journal of Near Eastern Studies.
JNG	Jahrbuch für Numismatik und Geldgeschichte.
JNSI	Journal of the Numismatic Society of India.
JÖAI	Jahreshefte des Österreichischen Archäologischen Instituts.
JÖB	Jahrbuch der Österreichischen Byzantinistik (since 1969).
JÖBG	Jahrbuch der Österreichischen Byzantinischen Gesellschaft (until 1968).
JOIB	Journal of the Oriental Institute, Maharaja Sayajirao University of Baroda.
JOR	Journal of Oriental Research (Madras).
JOSA	Journal of the Oriental Society of Australia.
JPanHS	Journal of the Panjab Historical Society.
JPh	Journal of Philology.
JPHS	Journal of the Pakistan Historical Society.
JPOS	Journal of the Pakistan Oriental Society.
JPS	Journal of the Polynesian Society.

JPTS	Journal of the Pali Text Society.
JQR	Jewish Quarterly Review.
JRAI	Journal of the Royal Anthropological Institute of Great Britain and Ireland.
JRAS	Journal of the Royal Asiatic Society of Great Britain and Ireland.
JRASNCB	Journal of the North China Branch of the Royal Asiatic Society.
JRGS	Journal of the Royal Geographical Society.
JRGZM	Jahrbuch des römisch-germanischen Zentralmuseums, Mainz.
JRS	Journal of Roman Studies.
JS	Journal des Savants.
JSA	Journal, Société des Africanistes.
JSBRAS	Journal of the Straits Branch of the Royal Asiatic Society.
JSEAH	Journal of Southeast Asian History.
JSGUF	Jahrbuch der Schweizerischen Gesellschaft für Ur- und Frühgeschichte (Basel).
JSHS	Journal of the Sind Historical Society.
JSmSt	Journal of Semitic Studies.
JSS	Journal of the Siam Society.
JSSS	Journal of the South Seas Society.
JTS	Journal of Theological Studies.
JUB	Journal of Bombay University.
JUPHistS	Journal of the United Provinces Historical Society (Calcutta).
JWAG	Journal of the Walters Art Gallery (Baltimore).
JWCBRS	Journal of the West China Border Research Society.
JWG	Jahrbuch für Wirschaftsgeschichte.
Kaniṣka Papers	Papers on the Date of Kaniṣka submitted to the Conference on the Date of Kaniṣka, London, 20—22 April, 1960, ed. A. L. Basham, Australian National University Centre of Oriental Studies, Oriental Monograph Series 4 (Leiden 1968).
K'ao-ku	K'ao-ku (Peking).
Karthago	Karthago. Revue d'Archéologie africaine.
KHR	Kenya Historical Review.
KJVFG	Kölner Jahrbuch für Vor- und Frühgeschichte (Römisch-germanisches Museum und Archäologische Gesellschaft, Köln).
KKHP	K'ao-ku Hsüeh-pao (Chinese Journal of Archaeology, Peking).
Klio	Klio. Beiträge zur alten Geschichte.
Kodaigaku	Kodaigaku (Palaeologia, Osaka).
KSIA	Kratkie soobshcheniia o dokladakh i polevykh issledovaniiakh Instituta arkheologii, Akademiia nauk SSSR. (note: In Soviet journals this abbreviation is used for the Kratkie soobshcheniia of the Archaeological Institute of the Academy of Sciences of the Ukrainian SSR which was not used in the preparation of this paper.)
KSIE	Kratkie soobshcheniia, Institut etnografii, Akademiia nauk SSSR.
KSIIMK	Kratkie soobshcheniia o doklakakh i polevykh issledovaniakh Instituta istorii material'noi kul'tury (Moscow).
KSP	Kerala Society Papers.
KUML	KUML (Jysk Arkaeologisk Selskab).
Kush	Kush (Sudan, Egyptian Antiquities Service).
LAAA	Liverpool Annals of Archaeology and Anthropology.
Language	Language (Linguistic Society of America).
Latomus	Latomus. Revue d'Études latines.
LF	Listy Filologicke.
Libyca	Libyca. Serie Archéologie—Epigraphie (Algeria, Service des Antiquites).
LSYC	Li-shih yen chiu (Peking).

MAAMP	Memoria Antiquitatis, Acta Musei Petrodavensis.
MAB	Miscellanea Academica Berolinensia.
MAGW	Mitteilungen der anthropologischen Gesellschaft in Wien.
MAI	Memoirs, Académie des inscriptions et belles-lettres, Paris.
Man	Man (Royal Anthropological Institute of Great Britain and Ireland). (note: In 1966 a new journal with this title superceded JRAI and Man.)
March of India	March of India (India, Ministry of Information).
Matsne	Matsne, Otdelenie Obshchestvennykh Nauk, Akademiia Nauk Gruzinskoi SSR (Tiflis).
MBAS	Monthly Bulletin of the Asiatic Society.
MBPAR	Münchener Beiträge zur Papyrusforschung und antiken Rechtsgeschichte.
MDAFA	Mémoires de la Délégation Archéologique Française en Afghanistan.
MDAI(A)	Mitteilungen des Deutschen Archäologischen Instituts (Athenische Abteilung).
MDAI(B)	Mitteilungen des Deutschen Archäologischen Instituts (Baghdad Abteilung).
MDAI(I)	Mitteilungen des Deutschen Archäologischen Instituts (Istanbul Abteilung).
MDAI(K)	Mitteilungen des Deutschen Archäologischen Instituts (Kairo Abteilung).
MDAI(M)	Mitteilungen des deutschen archäologischen Instituts (Madrid Abteilung).
MDAI(R)	Mitteilungen des Deutschen Archäologischen Instituts (Römische Abteilung).
MDOG	Mitteilungen der Deutschen Orient-Gesellschaft.
MDP	Mémoires de la Délégation en Perse.
MEFAR	Mélanges d'Archéologie et d'Histoire de l'École française d'Athènes et de Rome.
MEJ	The Middle East Journal.
MémARB	Mémoires, Académie Royale de Belgique, Classe des Lettres et des Sciences Morales et Politiques (Bruxelles).
MemASE	Memoirs of the Archaeological Survey of Egypt.
MemASI	Memoir of the Archaeological Survey of India.
MémIFAO	Mémoires, Institut française d'Archéologie Orientale du Caire.
MemIsMEO	Reports and Memoirs, Istituto Italiano per il Medio ed Estremo Oriente. Centro Studi e Scavi Archeologici in Asia.
Meroitica	Meroitica. Sudan im Altertum. 1. Internationale Tagung für meroitische Forschungen. Schriften zur altsudanesischen Geschichte und Archäologie (Humboldt Universität zu Berlin, Bereich Ägyptologie und Sudanarchäologie).
Meroitic Newsletter	Meroitic Newsletter. Bulletin d'information méroïtique.
Mesopotamia	Mesopotamia. Rivista di Archeologia Epigrafia e Storia Orientale Antica.
MGWJ	Monatsschrift für die Geschichte und Wissenschaft des Judentums.
MH	Museum Helveticum. Revue Suisse pour l'Étude de l'Antiquité classique.
MIA	Materialy i issledovaniia po arkheologii SSSR.
Milla wa-Milla	Milla wa-Milla, the Australian Bulletin of Comparative Religion.
MIO	Mitteilungen des Instituts für Orientforschung der Deutschen Akademie der Wissenschaften zu Berlin.
MJLS	Madras Journal of Literature and Science.
MJTG	Malayan Journal of Tropical Geography.
MM	Mariner's Mirror.
MMJ	Metropolitan Museum Journal.

MMVH	Mitteilungen des Museum für Völkerkunde und Vorgeschichte, Hamburg.
MN	Monumenta Nipponica.
Mnemosyne	Mnemosyne. Bibliotheca Classica Batava.
MÖNG	Mitteilungen der Österreichischen Numismatischen Gesellschaft.
MonPiot	Monuments et mémoires, Commission de la Fondation Piot, Académie des Inscriptions et Belles-Lettres, Paris.
Monumenta	Monumenta (Mozambique, Comissao dos Monumentos Nacionais, Lourenco Marques).
Monumenti Antichi	Monumenti Antichi pubblicati per cura della accademia dei Lincei.
MPAW	Monatsberichte der königlichen preußischen Akademie der Wissenschaften.
MS	Monumenta Serica.
MSOS	Mitteilungen des Seminars für Orientalische Sprachen an der Friedrich-Wilhelms-Universität zu Berlin.
MSS	Münchener Studien zur Sprachwissenschaft.
MTB	Memoirs of the Research Department of the Toyo Bunko (Oriental Library), (Tokyo).
Muse	Annual of the Museum of Art and Archaeology of the University of Missouri (Columbia).
Le Muséon	Le Muséon. Revue d'Études Orientales.
MUSJ	Mélanges de l'Université Saint-Joseph (Beirut).
MVG	Mitteilungen der Vorderasiatischen Gesellschaft.

NAA	Narody Azii i Afrika.
NADA	The Southern Rhodesia Native Affairs Department Annual.
Nature	Nature (London).
NC	Numismatic Chronicle.
NCirc	Numismatic Circular.
NdS	Notizie degli Scavi di Antichità.
NE	Numizmatika i epigrafika (Akademija nauk SSR. Institut archeologii, Moscow).
NESE	Neue Ephemeris für Semitische Epigraphik.
NHJ	Neue Heidelberger Jahrbücher (Historisch-philosophischer Verein zu Heidelberg).
NNÅ	Nordisk Numismatisk Årsskrift.
NNM	Numismatic Notes and Monographs (American Numismatic Society, New York).
NNZAA	Newsletter, New Zealand Archaeological Association.
Nouvelle Clio	La Nouvelle Clio (Bruxelles).
NS	Numizmatika i sfragistika (Kiev).
NSI, NNM	Numismatic Society of India, Numismatic Notes and Monographs.
NTS	Norsk Tidsskrift for sprogvidenskap e Oslo.
Numismatist	Numismatist. Official Publication of the American Numismatic Association.
NumListy	Numismatické Listy (Prague).
NZ	Numismatische Zeitschrift.

OA	Oriens Antiquus.
OcPapNMSR	Occasional Papers, the National Museum of Southern Rhodesia.
OE	Oriens Extremus.
OHRJ	Orissa Historical Research Journal.
OIP	Oriental Institute Publications (University of Chicago).
OLZ	Orientalistische Literaturzeitung.
OMRL	Oudheidkundige Mededelingen uit het Rijksmuseum van Oudheiden te Leiden.

OpAthen	Opuscula Atheniensia.
Oriens	Oriens. Journal de la Société Internationale d'Études Orientales.
Oriental Art	Oriental Art (London).
Orientalia	Orientalia. Commentarii periodici Pontificii Instituti Biblici.
OrSuec	Orientalia Suecana.
Osiris	Osiris. Commentationes de Scientiarum et Eruditionis Historia Rationeque.
OTF	Oriental Translation Fund (Royal Asiatic Society of Great Britain and Ireland).
OZ	Ostasiatische Zeitschrift (Gesellschaft für ostasiatische Kunst).

PAAJR	Proceedings of the American Academy of Jewish Research.
PACA	Proceedings of the African Classical Association.
PAES	Proceedings of the American Ethnological Society.
PAFSM	Publications of the American Foundation for the Study of Man.
Paideuma	Paideuma. Mitteilungen zur Kulturkunde.
PakArch	Pakistan Archaeology.
PalSb	Palestinskii Sbornik (Moscow).
PASB	Proceedings of the Asiatic Society of Bengal (Calcutta).
PBA	Proceedings of the British Academy.
PBSR	Papers of the British School at Rome.
PCPhS	Proceedings of the Cambridge Philological Society.
PEQ	Palestine Exploration Quarterly.
Persica	Persica (Genootschap Nederland—Iran).
Philologus	Philologus. Zeitschrift für das klassische Altertum.
Phoenix	Phoenix. The Journal of the Classical Association of Canada.
Phoibos	Phoibos. Cercle de Philologie classique et orientale, Université libre (Bruxelles).
PhQ	Philological Quarterly.
PhW	Philologische Wochenschrift.
Physis	Physis. Rivista di Storia della Scienza.
PIHC	Proceedings of the Indian History Congress.
PIMK	Problemy istorii material'noi kul'tury (Leningrad).
PJS	Philippine Journal of Science.
Pontica	Pontica. Studii şi Materiale de Istorie, Arheologie şi Muzeografie.
PopSt	Population Studies.
PP	La Parola del Passato.
P&P	Past and Present. A Journal of Historical Studies.
PPES	Publications of the Princeton University Archaeological Expeditions to Syria in 1904—1905 and 1909.
PRGS	Proceedings of the Royal Geographical Society.
PRIA	Proceedings of the Royal Irish Academy.
Proc. Dushanbe	Proceedings of the International Conference on the History, Archaeology and Culture of Central Asia in the Kushan Period, Dushanbe, September 27—October 6, 1968 (Moscow 1974; vol. 2 Moscow 1975).
Prudentia	Prudentia. A Journal Devoted to the Intellectual History of the Hellenistic and Roman Periods.
PS	Population Studies.
PSA	Proceedings of the Society of Antiquaries of London.
PSBA	Proceedings of the Society of Biblical Archaeology.
Publ. EFEO	Publication d'École française d'Extrême-Orient.

QDAP	Quarterly of the Department of Antiquities in Palestine.
QJE	Quarterly Journal of Economics.

QJMS	Quarterly Journal of the Mythic Society of India.
QRHS	Quarterly Review of Historical Studies (Calcutta).
QTNAC	Quaderni Ticinesi. Numismatica e Antichità classiche.

RA	Revue Archéologique.
RAA	Revue des Arts Asiatiques (Musée Guimet, Paris).
RACF	Revue Archéologique du Centre de la France.
Radiocarbon	Radiocarbon (New Haven, Conn.).
Raggi	Zeitschrift für Kunstgeschichte und Archäologie (Basel).
RAL	Rendiconti della Classe di Scienze morali, storiche e filologiche dell'Accademia dei Lincei.
RAO	Recueil d'archéologie orientale.
Rassegna Numismatica	Rassegna Numismatica, finanziaria e tecnico-monetaria.
RAssyr	Revue d'Assyriologie et d'Archéologie orientale.
RB	Revue Biblique.
RBN	Revue Belge de Numismatique.
RBPh	Revue Belge de Philologie et d'Histoire.
RBS	Revue Bibliographique de Sinologie.
RD	Revue historique de droit français et étranger.
REA	Revue des Études Anciennes.
REArmén	Revue des Études Arméniennes.
RecPap	Recherches de Papyrologie.
REG	Revue des Études Grecques.
REI	Revue des Études Islamiques.
REJ	Revue des Études Juives.
REL	Revue des Études Latines.
RESEE	Revue des Études Sud-Est-Européennes.
Rev. d'Egypt.	Revue d'Égyptologie (Société française d'Égyptologie).
RFIC	Rivista di Filologia e di Istruzione Classica.
RGH	Readings in Glass History.
RGHE	Revue de Géographie Humaine et d'Ethnologie.
RH	Revue Historique.
RHES	Revue d'Histoire Economique et Sociale.
RhM	Rheinisches Museum.
RHR	Revue de l'Histoire des Religions.
RIDA	Revue Internationale des Droits de l'Antiquité.
RIL	Rendiconti dell'Istituto Lombardo, Classe di Lettere, Scienze morali e storiche (Milan).
RIN	Rivista Italiana di Numismatica e Scienze affini.
RIndo	Revue Indochinoise (Hanoi).
Ritsumeikan bungaku	Ritsumeikan bungaku. The Monthly Journal of Cultural Science, Kyoto.
RN	Revue Numismatique.
RODNI	Rapporten, Oudheidkundige deinst in Nederlandsch-Indie.
RömMitt	MDAI(R)
RPh	Revue de Philologie.
RPhilos	Revue Philosophique.
RPSS	Ricerche, Pubblicazioni del Seminario di Semitistica (Istituto Orientale di Napoli).
RQ	Revue de Qumran.
RSA	Rivista Storica dell'Antichita.
RSE	Rassegna di Studi Etiopici.
RSJB	Recueils de la Société Jean Bodin.
RSN	Revue Suisse de Numismatique.
RSO	Rivista degli Studi Orientali.

SA	Sovetskaia arkheologiia (note: Two series of this journal are used here. The first begins in 1936, is numbered serially up to no. 30 in 1960 and was issued by the Institut antropologii, arkheologii i etnografii, Akademiia nauk SSSR; the second began to appear in 1957 as a quarterly of the Akademiia nauk SSSR, Institut Arkheologii and is numbered by the issues in a given year).
SAA	Soviet Anthropology and Archaeology.
SAAB	South African Archaeological Bulletin.
Saeculum	Saeculum. Jahrbuch für Universalgeschichte.
SAJS	South African Journal of Science.
SAMAB	South African Museum Association Bulletin.
SAWW	Sitzungsberichte der Österreichischen Akademie der Wissenschaften, Philosophisch-historische Klasse.
SBAW	Sitzungsberichte der Bayerischen Akademie der Wissenschaften, Philosophisch-Historische Klasse.
Schmollers Jahrb.	Schmollers Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft im Deutschen Reich (Leipzig).
SCMB	Seaby's Coin and Medal Bulletin (London).
SCN	Studi si Cercetări de Numismatică.
Scriptorium	Scriptorium. Revue internationale des études relatives aux manuscrits.
SDAW	Sitzungsberichte der deutschen Akademie der Wissenschaften, Berlin.
SE	Sovetskaia Etnografiia.
Semitica	Semitica (Institut d'Études Sémitiques, Paris Université).
SemKond	Seminarium Kondakovianum (Prague).
SGE	Soobshcheniia Gosudarstvennogo Ermitazha.
SGZ	Shigaku zasshi (The Historical Journal of Japan, Tokyo).
Shigaku zasshi	Shigaku zasshi. Historical Journal of Japan (Tokyo).
Shirin	Shirin. The Journal of History (Tokyo).
Sibrium	Sibrium. Collana di Studi e Documentazioni (Centro di Studi Preistorici e Archeologici).
Sinica	Sinica. Zeitschrift für Chinakunde und Chinaforschung.
Sinologica	Sinologica (Basel).
SIS	Sino-Indian Studies.
SJ	Saalburg-Jahrbuch. Bericht des Saalburg-Museums.
SM	Schweizer Münzblätter.
SMJ	Sarawak Museum Journal.
SNR	Sudan Notes and Records.
SNV	Strany i Narody Vostoka.
SO	Symbolae Osloenses.
SovGeog	Soviet Geography.
SPAW	Sitzungsberichte der preußischen Akademie der Wissenschaften, Philosophisch-Historische Klasse.
Speculum	Speculum. Journal of Medieval Studies.
SRIKM	Soobshcheniia Respublikanskogo istoriko-kraevedcheskogo muzeia Tadzhikskoi SSR (Dushanbe).
StIs	Studia Islamica (Paris).
StR	Studi Romagnoli.
StSer	Studia Serica (Chengtu).
Studia	Studia: Revista semestral, Centro de Estudos Historicos Ultramarinos.
StudClas	Studii Clasice (Bucharest).
StudGen	Studium Generale. Zeitschrift für die Einheit der Wissenschaften im Zusammenhang ihrer Begriffsbildungen und Forschungsmethoden.

StudPap	Studia Papyrologica. Revista expañola de Papirologia.
Sumer	Sumer. A Journal of Archaeology in Iraq (Baghdad).
SWJA	Southwestern Journal of Anthropology.
Syria	Syria. Revue d'Art Oriental et d'Archéologie.

ΤΑΛΑΝΤΑ	ΤΑΛΑΝΤΑ, Proceedings of the Dutch Archaeological and Historical Society.
Taloha	Taloha (Université de Malagasy, Tananarive).
TANTadzhSSR	Trudy Akademiia nauk Tadzhikskoi SSR (Dushanbe).
TANTSSR	Trudy Akademiia nauk Tadzhikskoi SSR (Dushanbe).
TAPhA	Transactions of the American Philological Association.
TAPhS	Transactions of the American Philosophical Society.
TASSI	Transactions of the Archaeological Society of South India.
T&C	Technology and Culture (Society for the History of Technology).
TESG	Tijdschrift voor economische en sociale Geografie (Nederlandse Verenigung voor economische en sociale Geografie, The Hague).
TGE	Trudy Gosudarstvennogo Ermitazha.
Theoria to Theory	Theoria to Theory (Epiphany Philosophers, Cambridge).
THJCS	Tsing Hua Journal of Chinese Studies.
THSG	Transactions of the Historical Society of Ghana.
TIE	Trudy Instituta Etnografii (Moscow).
TIIAANUzSSR	Trudy Instituta istorii i arkheologii, Akademiia nauk Uzbekskoi SSR (Tashkent).
TIIAEANKazSSR	Trudy Instituta istorii arkheologii i etnografii, Akademiia nauk, Kaz. SSR (Alma-Ata).
TIIALIKirFANSSR	Trudy Instituta iazyka, literatury i istorii, Kirgizskii filial Akakemii nauk SSR (Frunze).
TIIANKirSSR	Trudy Instituta istorii, Akademiia nauk Kirgizskoi SSR (Frunze).
TIIANTadzhSSR	Trudy Instituta istorii, Academiia nauk Tadzhikskoi SSR (Dushanbe).
TITLV	Tijdschrift voor Indische Taal-, Land-, en Volkenkunde uitgegeven door het Bataviaasch Genootschap von Kunsten en Wetenschappen.
TIuTAKE	Trudy Iuzhno-Turkmenistanskaia arkheologicheskai kompleksnaia ekspeditsiia.
TKAEE	Trudy Kirgizskoi arkheologo-etnograficheskoi ekspeditsii.
TKNAG	Tijdschrift van het Koninklijk Nederlandsch Aadrijkskundig Genootschap.
TMGMII	Transactions of the Mining, Geological and Metallurgical Institute of India (Calcutta).
TMIUzSSR	Trudy Muzeia istorii Uzbekskoi SSR (Tashkent).
TNR	Tanganyika Notes and Records.
TOCS	Transactions of the Oriental Ceramic Society.
Tōhōgakuhō	Tōhōgakuhō (Journal of Oriental Studies, Kyoto).
Tōyōshi kenkyū	Tōyōshi kenkyū (Journal of Oriental Researches, Kyoto).
TP	T'oung Pao.
Traditio	Traditio. Studies in Ancient and Medieval History.
TrRoyHistSoc	Transactions of the Royal Historical Society.
TrRoyIrAcad	Transactions of the Royal Irish Academy.
TZ	Trierer Zeitschrift.

UAJ	Ural-Altaische Jahrbücher.
UCPSP	University of California Publications in Semitic Philology.
Ugaritica	Ugaritica (Mission de Ras Shamra).
UIRJ	University of Indore Research Journal.
UJ	Uganda Journal.

UMJEAS	University of Manila Journal of East Asiatic Studies.
Univ. of Egypt, Bull. Fac. of Arts	Fouad I University (Cairo), Bulletin of the Faculty of Arts.
VANKazSSR	Vestnik Akademii nauk Kazakhskoi (Alma-Ata).
VDI	Vestnik drevnei istorii.
VIJ	Vishveshvaranand Indological Journal.
VV	Vizantiiskii Vremennik.
WA	World Archaeology.
WAJA	West African Journal of Archaeology.
WBKKGA	Wiener Beiträge zur Kunst- und Kultur-Geschichte Asiens.
Welt des Orients	Welt des Orients, Wissenschaftliche Beiträge zur Kunde des Morgenlandes.
Wen-wu	Wen-wu (Peking).
WJA	Würzburger Jahrbücher für die Altertumswissenschaft.
WKPh	Wochenschrift für klassische Philologie.
WN	Wiadomości Numizmatyczne (Warsaw).
WS	Wiener Studien. Zeitschrift für klassische Philologie.
WZKM	Wiener Zeitschrift für die Kunde des Morgenlandes.
WZKSO	Wiener Zeitschrift für die Kunde Süd- und Ostasiens und Archiv für indische Philosophie.
WZRostock	Wissenschaftliche Zeitschrift der Univ. Rostock, Gesellschafts- und sprachwissenschaftliche Reihe.
YCS	Yale Classical Studies.
ZA	Zeitschrift für Assyriologie und verwandte Gebiete.
ZÄS	Zeitschrift für ägyptische Sprache und Altertumskunde.
ZDMG	Zeitschrift der Deutschen Morgenländischen Gesellschaft.
ZDPV	Zeitschrift des Deutschen Palästina-Vereins.
Zeitschr. d. Ges. f. Erdkunde zu Berlin	Zeitschrift der Gesellschaft für Erdkunde zu Berlin.
ZfN	Zeitschrift für Numismatik.
ZfS	Zeitschrift für Semitistik und verwandte Gebiete.
ZOAO	Zapiski Odesskogo arkheologicheskogo obshchestva.
ZPE	Zeitschrift für Papyrologie und Epigraphik.
ZSS	Zeitschrift der Savigny-Stiftung für Rechtsgeschichte (Romanistische Abteilung).

2. Documentary and Numismatic Sources

For all publications of Greek and Latin papyri and ostraca abbreviations follow the system set forth in J. F. Oates, R. S. Bagnall and W. H. Willis, Checklist of Editions of Greek Papyri and Ostraca, BASP 11.1 (1974). Note however the following additions:

O. Amst.	R. S. Bagnall, P. J. Sijpestein and K. A. Worp, Ostraka in Amsterdam Collections, Studia Amstelodamensia ad Epigraphicam, Ius Antiquum et Papyrologicam Pertinentia 9 (Zutphen 1976).
O. Dura	R. N. Frye, J. F. Gilliam, H. Ingholt and C. B. Welles, Inscriptions from Dura-Europos, YCS 14 (1955), 168—192.
O. Fawakhir	O. Gueraud, Ostraca Grecs et Latins de l'Wadi Fawakhir, BIFAO 41 (1942), 141—196.
O. Florida	R. S. Bagnall, The Florida Ostraca, Documents from the Roman Army in Upper Egypt, Greek, Roman and Byzantine Monograph 7 (Durham N.C. 1976).
O. Harvard	G. M. Browne, Ostraca Havardiana, HSCPh 26 (1972), 245—258.

For Greek and Latin inscriptions the standard corpora are abbreviated in the usual manner; note the following additional items:

Baillet, Syringes II	J. Baillet, Inscriptions grecques et latines des tombeaux des rois au Syringes à Thèbes, vol. II, MemIFAO 42 (Cairo 1923).
Bernand, De Koptos à Kosseir	A. Bernand, De Koptos à Kosseir (Leiden 1972).
Bernand, Inscr. du Colosse de Memnon	A. and E. Bernand, Les inscriptions grecques et latines du Colosse de Memnon, BEIFAO 31 (Cairo 1960).
Bernand, Le Paneion d'El-Kanaïs	A. Bernand, Le Paneion d'El-Kanaïs: Les inscriptions grecques (Leiden 1972).
ChLA	A. Bruckner—R. Marichal, Chartae Latinae Antiquiores (Olten–Lausanne 1954ff.).
IGLS	Inscriptions grecques et latines de la Syrie.
Inschriften von Dakke	Les temples immergés de la Nubie. Der Tempel von Dakke vol. III: Die griechischen und lateinischen Inschriften von Dakke, by W. Ruppel (Cairo 1930).
Inscr. métriques	E. Bernand, Inscriptions métriques de l'Égypte gréco-romaine, Recherches sur la poésie épigrammatique des Grecs en Égypte, Annales Littéraires de l'Université de Besançon 98 (Paris 1969).
Inscr. Philae	A. Bernand, Les inscriptions grecques de Philae, vol. I: Époque ptolémaique (Paris 1969). E. Bernand, vol. II: Haut et Bas Empire, (Paris 1969).
IRT	J. M. Reynolds and J. B. Ward-Perkins (eds.), The Inscriptions of Roman Tripolitania (London 1952).
MDRW	R. K. Sherk, The Municipal Decrees of the Roman West, Arethusa Monographs 2 (Buffalo 1970).
Milne, Gr. Inscr. Cairo	J. G. Milne, Catalogue général du Musée du Caire, Greek Inscriptions (Cairo 1905).

The following abbreviations are used for Semitic, Iranian, Demotic, Chinese and Indian documents and texts:

(note: Apart from the texts published in the major corpora, South Arabian inscriptions are usually cited by an abbreviated form of the editor's name followed by a number. Since most readers may be unfamiliar with this system alone, I have indicated, in each case where a text is cited in this fashion, which periodical or monograph it is published in.)

van der Branden, Textes thamoudéens	A. van der Branden, Les textes thamoudéens de Philby, vol. I: Inscriptions du Sud, BdM 40 (Louvain 1956); vol. II: Inscriptions du Nord, BdM 41 (Louvain 1956).
Burrow, Translation	T. Burrow, A Translation of the Kharoṣṭhī Documents from Chinese Turkestan, James G. Forlong Fund vol. 20 (London 1940).
Caskel, Lihyan u. Lihyanisch	W. Caskel, Lihyan und Lihyanisch, Abhandlungen der Arbeitsgemeinschaft für Forschung des Landes Nordrhein-Westfalen H. 4 (Cologne 1952).
CDGD	F. L. Griffith, Les temples immergés de la Nubie. Catalogue of the Demotic Graffiti of the Dodecaschoenus (Oxford 1937).
Chavannes, Documents chinois	E. Chavannes, Les documents chinois découverts par Aurel Stein dans les Sables du Turkestan Oriental (Oxford 1913).
CIH	Corpus Inscriptionum Semiticarum, part IV. Inscriptiones Himyariticas.
CIInd	Corpus Inscriptionum Indicarum.
CIIran	Corpus Inscriptionum Iranicarum.
CIS	Corpus Inscriptionum Semiticarum.
Conrady, Handschriften	A. Conrady, Die Chinesischen Handschriften und sonstigen Kleinfunde Sven Hedins in Lou-lan (Stockholm 1920).

Cowley, Aramaic Papyri	A. E. Cowley, Aramaic Papyri of the Fifth Century B.C. (Oxford 1923).
DAE IV	Deutsche Aksum-Expedition, IV: Sabaische, griechische und altabessinische Inschriften (Berlin 1913).
Dubs, HFHD	H. H. Dubs, The History of the Former Han Dynasty by Pan Ku, Translation, vols. 1—2 (Baltimore 1938—1944).
Gale, Discourses	E. M. Gale, Discourses on Salt and Iron: A Debate on State Control of Commerce and Industry in Ancient China, Sinica Leidensia 2 (Leiden 1931).
de Groot, HdVZ	J. J. M. de Groot, Chinesische Urkunden zur Geschichte Asiens, vol. I: Die Hunnen der vorchristlichen Zeit (Berlin/Leipzig 1921).
de Groot, WC	J. J. M. de Groot, Chinesische Urkunden zur Geschichte Asiens, vol. II: Die Westlande Chinas in der vorchristlichen Zeit (Berlin/Leipzig 1926).
HS	Han Shu.
HSS	Hou Han Shu.
Inscr. de Baalshamin	C. Dunant, Le sanctuaire de Baalshamin à Palmyre, vol. III: Les inscriptions, BHR X.3 (Rome 1971).
Inv.	J. Cantineau, Inventaire des inscriptions de Palmyre, fascs. I—IX, Publications du Musée National Syrien de Damas no. 1 (Beirut 1930—33); fasc. X by J. Starcky (1949).
Inv. Doura	Comte du Mesnil du Buisson, Inventaire des inscriptions palmyréniennes de Doura-Europos (32 avant J.C. a 256 après J.C.) (Paris 1939).
Iscr. Min.	G. Garbini (ed.), Iscrizioni sudarabiche I: Iscrizioni Minée, RPSS 10 (Naples 1974).
Jamme, Sabaean Inscriptions	A. Jamme, Sabaean Inscriptions from Maḥram Bilqîs (Marib), PAFSM 3 (Baltimore 1962).
Jaussen and Savignac, Mission	RR. PP. Jaussen and Savignac, Mission Archéologique en Arabie, vol. I: De Jérusalem au Hedjaz Médain-Salah (Paris 1909); vol. II: El-ʿEla, d'Hégra à Teima, Harrah de Tebouk (Paris 1914).
Kent, Old Persian^2	R. G. Kent, Old Persian, Grammar, Texts, Lexicon, 2nd red.
Khar. Inscr.	Kharoṣṭhī Inscriptions.
	ed., AOS 33 (New Haven 1953).
Kraeling, Brooklyn Museum Papyri	E. Kraeling, The Brooklyn Museum Aramaic Papyri, New Documents of the Fifth Century B.C. from the Jewish Colony at Elephantine (New Haven 1953).
Littmann, Safaitic Inscriptions	E. Littmann, Semitic Inscriptions, PPES IV, sec. C: Safaitic Inscriptions (Leiden 1943).
Liu Mau-tsai, Chin. Nachrichten	Liu Mau-tsai, Die chinesischen Nachrichten zur Geschichte der Ost-Türken (T'u-küe), vols. 1—2, GAF 10 (Wiesbaden 1958).
Loewe, Records	M. Loewe, Records of Han Administration, vols. 1—2 (Cambridge 1967).
Lüders, Brahmi Inscr.	H. Lüders, A List of Brāhmī Inscriptions from the Earliest Time to about A.D. 400 (except those of Aśōka), Epigraphia Indica, Appendix to vol. X (1910/11).
Maspero, Documents chinois	H. Maspero, Les documents chinois de la troisième expedition de Sir Aurel Stein en Asie Centrale (London 1953).
MI	Meroitic Inscriptions, pt. II: Napata to Philae and Miscellaneous, MemASE 20 (London 1912).
PFT	Persepolis Fortification Tablets, by R. T. Hallock, OIP 92 (Chicago 1969).
PTT	Persepolis Treasury Tablets, by G. G. Cameron, OIP 65 (Chicago 1948).
Reichelt, Sog. Handschriften	H. Reichelt, Die soghdischen Handschriften des Britischen Museums, vol. 2 (Heidelberg 1931).

RES	Répertoire d'Épigraphie Sémitique.
RTP	H. Ingholt, H. Seyrig and J. Starcky, Recueil des tessères de Palmyre, BAH 58 (Paris 1955).
SC	Shih-chi.
SKC	San Kuo chih, cited according to the translation of A. Fang (ed. G. W. Baxter), The Chronicle of the Three Kingdoms (220 to 265 A.D.); Chapters 69—78 from the 'Tzŭ Chih T'ung Chien' of Ssu-ma Kuang (1019—1068), 2 vols. (Cambridge, Mass. 1952—1965).
N. L. Swann, Food and Money	N. L. Swann, Food and Money in Ancient China, the Earliest Economic History of China to A.D. 25: Han Shu 24 with Related Texts, Han Shu 91 and Shih-chi 129 (Princeton 1950).
Thomas, Tibetan Texts	F. W. Thomas, Tibetan Literary Texts and Documents Concerning Chinese Turkestan, vol. I: Literary Texts, OTF n.s. 32 (London 1935).
Thomas, Tibetan Documents	F. W. Thomas, Tibetan Literary Texts and Documents Concerning Chinese Turkestan, vol. II: Documents, OTF n.s. 37 (London 1951).
Watson, Records	B. Watson, Records of the Grand Historian of China, vol. II (New York 1961).
YTL	Yen Tieh Lan, cf. Gale, Discourses.

Coin Catalogues: (only catalogues and works of reference with abbreviated titles are listed here)

BMC Alexandria	A Catalogue of the Greek Coins in the British Museum. Catalogue of the Coins of Alexandria and the Nomes, by R. S. Poole, (London 1892).
BMC Ancient India	Catalogue of Indian Coins in the British Museum. The Coins of Ancient India, by J. Allen (London 1936).
BMC Andhra Dynasty	Catalogue of Indian Coins in the British Museum. The Coins of the Andhra Dynasty, the Western Kṣatrapas, the Traikotaka Dynasty and the 'Body' Dynasty, by E. J. Rapson (London 1908).
BMC Arabia, Mesopotamia and Persia	A Catalogue of Greek Coins in the British Museum. Catalogue of the Greek Coins of Arabia, Mesopotamia and Persia, by G. F. Hill (London 1922).
BMC Attica, Megaris, Aegina	A Catalogue of Greek Coins in the British Museum. Attica, Megaris, Aegina, by B. V. Head (London 1888).
BMC China	Catalogue of Chinese Coins from the Seventh Century B.C. to A.D. 621, included in the collections in the British Museum, by A. Terrien de la Couperie (London 1892).
BMC Greek and Scythic Kings	Catalogue of Indian Coins in the British Museum. The Coins of the Greek and Scythic Kings of Bactria and India in the British Museum, by P. Gardner (London 1886).
BMC Vandals, Ostrogoths and Lombards	Catalogue of the Coins of the Vandals, Ostrogoths and Lombards in the British Museum, by W. Wroth (London 1911).
BMCRE	Coins of the Roman Empire in the British Museum, vol. Iff. (London 1923 to the present) by H. Mattingly, continued by R. A. G. Carson.
CCPM	Catalogue of Coins in the Panjab Museum, Lahore, vol. I: Indo-Greek Coins, by R. B. Whitehead (Oxford 1914).
FMRD I.7	Die Fundmünzen der römischen Zeit in Deutschland, Abt. I. Bayern, Bd. 7: Schwaben, by M. A. Alföldi, P. R. Franke, H.-J. Kellner, K. Kraft, H. Küthmann (Berlin 1962).
FMRD II.3	ibid. Abt. II. Baden-Württemberg, Bd. 3: Südwürttemberg-Hohenzollern, by K. Christ with P. R. Franke (Berlin 1964).
FMRD II.4	ibid. Abt. II. Baden-Württemberg, Bd. 4: Nordwürttemberg, by K. Christ (Berlin 1964).

HCC	Roman Imperial Coins in the Hunter Coin Cabinet, by A. S. Robertson. vols. Iff. (London/Glasgow 1962 — in progress) (three volumes have now appeared, but only the first two were available to me during the preparation of this paper).
IGCH	M. Thompson, O. Mørkholm and C. M. Kraay (eds.), An Inventory of Greek Coin Hoards (New York 1973).
RRC	M. H. Crawford, Roman Republican Coinage, 2 vols. (Cambridge 1974).
Smith, CIM	V. A. Smith, Catalogue of the Coins in the Indian Museum, Calcutta, vol. 1 (Oxford 1906).
Thurston, MGMCC^2	E. Thurston, Madras Government Museum Coins, Catalogue no. 2: Roman, Indo-Portugese and Ceylon, 2nd rev. ed. (Madras 1894).

List of Illustrations

Plates I—II: No. 655 of the George Crofts Collection, Royal Ontario Museum, Toronto. This glass vase is approximately 9 inches high, has a broad, high shoulder sloping to a narrow mouth and foot, and has been painted to resemble bronze. About the widest part of the vessel in incised a broad meander pattern and three medallions each containing a Greek helmeted head, sometimes described as Athena. Between the medallions palmettes have been added above and below the meander. The original publication of this piece indicated that it came from an illegal excavation of a T'ang period tomb in Honan province. Rostovtzeff and others regarded the piece as Hellenistic, possibly from Alexandria; but the imitation bronze effects and the incised classical patterns both point to the nineteenth century glass industry of Eastern Europe. The production technique and documentary evidence both indicate that the glass vase is of a type produced in Czechoslovakia in c. 1880 and may have been added to the shipment of antiquities from China while it was in transit to Toronto.
(Plates I and II by courtesy of the Royal Ontario Museum.)

Maps (infra, p. 1363ff.)

I. Eastern Europe and Northern Asia
II. The Near East: Egypt, Arabia, and Iran
III. The Indian Subcontinent
IV. East Africa
V. Indochina and Malaya
VI. Indonesia

Select Addenda

The material briefly cited below is not intended to bring all of the topics discussed in this paper up to date but rather to include material to which I did not previously have access. It is hence primarily the result of my work during summer 1977 at Harvard University, at the British Museum, the India Office Library and the School of Oriental and African Studies in London and the Egyptian Museum in Cairo. I would like to express my gratitude to Duke University which contributed substantially toward my travel expenses.

p. 688 n. 47: Recently DANDAMAYEV has argued that the references to 'Cimmerians' in Babylonian texts from the sixth and fifth centuries B.C. provide evidence for a military colony of Central Asian Sakae near Nippur; M. A. DANDAMAYEV, Dannye babilonskikh dokumentov VI—V vv do n.e. o Sakakh, VDI (1977), 1.30—39.

p. 690 n. 57: In general on the gift trade in the ancient Near East see C. ZACCAGNINI, Lo scambio dei doni nel vicino oriente durante i secoli XV—XIII, Orientis Antiqui Collectio 11 (Rome, 1973) who argues that all foreign trade was carried on in terms of gifts between rulers; but cf. R. NORTH, Tin, Gift Mercantilism: Archaeological Varia, Orientalia 44.4 (1975), 490—481 who emphasises the importance of other considerations such as prestige in such transactions. A recent study of inscribed gift objects at Etruscan sites notes that this exchange of gifts came to an end with the advent of coinage, see M. CRISTOFANI, Il 'dono' nell'Etruria Arcaica, PP 30 (1975), 132—152.

p. 707 n. 162: Analyses of the early arsenical bronzes from tombs in the northwestern Caucasus have yielded traces of nickel as high as 4.4% but the source of the ore is unknown, see M. GIMBUTAS, The Beginnings of the Bronze Age in Europe and the Indo-Europeans: 3500—2500 B.C., Journal of Indo-European Studies 1.2 (1973), 181.

p. 718 n. 247: In relation to the trade of this period see the study of the production and export of finished carved chlorite vessels from the Iranian plateau to Mesopotamia by P. L. KOHL, Carved Chlorite Vessels: A Trade in Finished Commodities in the Mid-third Millennium, Expedition 18.1 (1975), 18—31.

p. 718 n. 249: Further on the existence of "direct contact trade" in early Southern Iran see H. T. WRIGHT and G. A. JOHNSON, Population, Exchange, and Early State Formation in Southwestern Iran, AmerAnthro 77 (1975), 277—283.

p. 753 n. 470: The entire reliability of the techniques of trace element investigation is questioned by J. D. MUHLY, The Copper Ox-hide Ingots and the Bronze Age Metals Trade, Iraq 39.1 (1977), 78.

p. 757 n. 490: For a detailed study of the architecture of Aï Khanoum see now P. BERNARD, Les traditions orientales dans l'architecture greco-bactrienne, JA 264.3/4 (1976), 245—275. In contrast with his earlier studies BERNARD stresses the predominant nature of the oriental elements in the domestic architecture of the city. The final report for excavations at Aï Khanoum for the years 1965—1968 has been published by P. BERNARD, Fouilles d'Aï Khanoum I, MDAFA 21 (Paris 1973).

p. 769 n. 540: A further effort to untagle chronologically the building history of the extensive network of walls around Palmyra is made by D. P. CROUCH, The Ramparts of Palmyra, Studia Palmyrenskie 6 (1975), 6—44, cf. M. GAWLIKOWSKI, ibid., 45—46.

p. 773 n. 549: P. Coll. Youtie I.48 (published by SIJPESTEIJN) has been re-edited by HAGEDORN who reads λι(μένος) [Μ]ἐ̣μ̣φεω̣ς̣ instead of ἐ(ρήμου) φ(υλακίας) . . .; see D. HAGEDORN, Zu zwei neuen Torzollquittungen, ZPE 23 (1976), 172.

p. 782 n. 583: Two further Latin inscriptions of the garrison in Palmyra are published by M. GAWLIKOWSKI, Deux inscriptions latines de Palmyre, Studia Palmyrenskie 3 (1969), 71—74, nos. a—b (both texts mention the *cohors I Flavia Chalcidenorum*).

p. 795 n. 652: A further important Kuṣāṇa inscription is published by K. W. DOBBINS, The Kamra Kharoṣṭhi Inscription of Vāsiṣka, E&W n. s. 25.1/2 (1975), 105—109. As read by DOBBINS the text in line one refers to a year 160 in which Vāsiṣka celebrates the birth of his son Kaniṣka. The editor believes that the era used is that of 58 B.C. and that hence year one of the Kaniṣka era is A.D. 78, but the reading of the year in line one is not entirely secure. Recently MACDOWALL has published a survey of the coinage of Jihonika wherein he notes that the beginning of the reign of Kaniṣka must lie somewhere between A.D. 78 and the early second century. Although close to my own view M.'s article is based on several assumptions with which I am in sharp disagreement; see D. W. MACDOWALL, The Azes Hoard from Shaikhan-Dheri: Fresh Evidence for the Context of Jihonika, in: N. HAMMOND (ed.), South Asian Archaeology (Park Ridge, N.J. 1973), 215—229.

p. 800 n. 677: MANDELSHTAM has published a brief survey of Kuṣāṇa prehistory which fits well with the 'Periplus' passage cited here; see A. M. MANDELSHTAM, Archäologische Bemerkungen zum Kushana-Problem, in: R. STIEHL and H. E. STIER (eds.), Beiträge zur Alten Geschichte und deren Nachleben, Festschrift für Franz Altheim (Berlin, 1969), 525—534 who notes that the kurgan fields of Northern Bactria, the graves of the nomad tribes which gave birth to the Kuṣāṇa Empire, show a rapid process of acculturation and furthermore burials come to an end (they are approximately dated by the coin finds in them, see above n. 457) late in the first century B.C. or early in the present era as the tribes moved further south.

p. 814 n. 709:: The parallel survival of a cult of Heracles in some form through the Kuṣāṇa period is attested by sculptural and terracotta remains at Dil'berdzhin, Balkh and Suzma-kala, see G. A. PUGACHENKOVA, Gerakl v Baktrii, VDI (1977), 2.77—92.

p. 815 n. 716: E. BADIAN's dating of Sulla's command in Cilicia has been challenged by A. N. SHERWIN-WHITE, Ariobarzanes, Mithridates and Sulla, CQ n.s. 27.1 (1977), 173—183 who favours a date of 94 B.C.

p. 816 n. 720: A brief period of Parthian conquest of Elymais in 69—68 B.C. followed by an issue of drachms by Phraates III first from the Elymaian mint and then from Susa with bullion derived from the famous Elymaian temple of Artemis has been hypothesized by K. W. DOBBINS, The Successors of Mithradates II of Parthia, NC 7 ser. 15 (1975), 36—38. Also on the Tang-i Sarvak reliefs see E. DE WAELE, Nouvelle introduction aux reliefs rupestres de Tang-e Sarvak, in: F. BAGHERZADEH (ed.), Proceedings of the IInd Annual Symposium on Archaeological Research in Iran, 29th October—1st November, 1973 (Tehran 1974), 254—266.

p. 829 n. 762: The declining influence of Greek culture and the increasingly prominent role of Iranian culture in Parthia from the first century of our era on is the subject of a study by J. WOLSKI, Arsakiden und Sasaniden, in: R. STIEHL and H. E. STIER (eds.), Beiträge zur Alten Geschichte und deren Nachleben, Festschrift für Franz Altheim (Berlin 1969), 318—322 who argues that this was a direct result of Arsacid policy.

p. 830 n. 762: Further on the coins of Phraates III see D. SELLWOOD, The Drachms of the Parthian 'Dark Age', JRAS (1976), 1.2—25.

p. 835 n. 772: For an excellent survey of the genesis of POLANYI's theories and their effect on the work of ancient historians such as OPPENHEIM and FINLEY see S. C. HUMPHREYS, History, Economics, and Anthropology: the Work of Karl Polanyi, History and Theory 8.2 (1969), 165—212.

The importance of the merchant and the profit motive rather than state or temple control in the third millennium B.C. is also stressed by M. A. POWELL, Sumerian Merchants and the Problem of Profit, Iraq 39.1 (1977), 23—29 and B. R. FOSTER, Commercial Activity

in Sargonic Mesopotamia, ibid., 31—43. Further on the meaning of *tamkari* see P. Garelli, Marchands et Tamkārū assyriens en Cappadoce, Iraq 39.1 (1977), 99—107.
p. 839 n. 777: Two further studies in the series of papers published by Rowton contain models applicable to the case of Palmyra: M. B. Rowton, Dimorphic Structure and the Parasocial Element, JNES 36.3 (1977), 181—198; Idem, Dimorphic Structure and Topology, OA 15 (1976), 17—31.
A possible parallel to the situation at Palmyra may be found in Jaussen and Savignac, Mission II no. Lih. 71 = Caskel, Lihyan, no. 91 in which an individual described as an *amir* defends a town and subsequently acts as caravan guard. Beeston argues that the *amir* belongs to the Bedouin and is in the service of the sedentary Lihyanites, see A. F. L. Beeston, The Inscription Jaussen-Savignac 71 (with comments of F. V. Winnett, J. Ryckmans and Mahmud al Ghul), in: Proceedings of the Sixth Seminar for Arabian Studies, 27—28 Sept., 1972 (1973), 69—72.

p. 840 n. 778: For the extensive and elaborate water supply system intended to supply the needs of the city itself see D. P. Crouch, The Water System of Palmyra, Studia Palmyrenskie 7 (1965), 151—186.

p. 842 n. 785: The second of the two bilingual inscriptions is treated again by H. Ingholt, The Sarcophagus of Beʿelai and other Sculptures from the Tomb of Malkû, Palmyra, MUSJ 45 (1969), 192—200 who identifies the Beʿelai of our inscription with a man of the same name whose sarcophagus was found in the tomb of Malkû. Ingholt further argues that both inscriptions probably refer to the use of an Egyptian port rather than Charax.

p. 844 n. 790: A thorough study of the reliefs depicting Palmyrene camel mounted warriors has been published by A. Soltan, Ikonografia meharystów Palmyreńskich, Studia Palmyrenskie 3 (1969), 5—46.

p. 853 n. 841: More recently on the date of these poems see G. L. Hart III, Ancient Tamil Literature: Its Scholarly Past and Future, in: B. Stein (ed.), Essays on South India, Asian Studies at Hawaii no. 15 (Hawaii 1975), 41—42. For the ecological setting of the poems see B. Stein, Circulation and the Historical Geography of Tamil Country, JAS 37.1 (1977), 12—13.

p. 857 n. 863: More recently Walcot has attempted to illustrate that the de Officiis represents the actual views of the Roman aristocracy on private property: P. Walcot, Cicero on Private Property: Theory and Practice, G&R 2 ser. 22.2 (1975), 120—128.

p. 863 n. 889: The importance of slaves and freedmen as agents in financial transactions is also evident in the business documents on wax tablets from Pompeii, see the new finds in C. Giordano, Nuove Tavolette cerate Pompeiane, Rendiconti dell'Accademia di Archeologia di Napoli n.s. 45 (1970), 213—219, nos. 2—6.
A freedman and a freedwoman are mentioned in two new bilingual third century inscriptions from Palmyra, M. Gawlikowski, Trois inscriptions funéraires du camp de Dioclétien, Studia Palmyrenskie 6 (1975), 127—131.

p. 869 n. 900: An amphora bearing the inscription *ex prov(incia) Maur(etania) Caes(ariensi) Tubus(uctu)* found in pyramid Beg. N. 28 near Meroe has been the subject of a recent study by J. Desanges, L'amphora de Tubusuctu (Mauretanie) et la datation de Teqerideamani, Meroitic Newsletter 11 (1972), 17—21.

p. 871 n. 901: A short bilingual Greek and Latin inscription which was recently found at Baraqish in Yemen may provide evidence for the penetration of Gallus' expedition into Southern Arabia: [P.] CORNEL[IVS. . . .] / EQVES . N[. . . . .] / Πούβλι⟨ο⟩ς Κορν̣[ήλιος. . . . .]. I would like to express my gratitude to Professor G. W. Bowersock (Harvard University) who shared with me a copy of an excellent photograph of the stone which he had obtained.

p. 871 n. 902: For the translation of *ḏhb* meaning gilded bronze see W. E. N. KENSDALE, The Religious Beliefs and Practices of the Ancient South Arabians, Bulletin of the Aden Department of Antiquities 3 (1964), 6.

p. 874 n. 917: Amulets judged to be of Meroitic origin have been found in the excavations of the Axumite site of Haoulti see J. LECLANT, Le Musée des antiquités d'Addis-Ababa, Bulletin de la Société d'archéologie Copte 16 (1961/62), 295—296 and H. DE CONTENSON, Les fouilles de Haoulti en 1959, rapport préliminaire, Annales d'Éthiopie 5 (1963), 48; another Egyptian amulet was found at Matara, see J. LECLANT, Note sur l'amulette en cornaline J.E. 2832, Annales d'Éthiopie 6 (1965), 86—87. On a more general level certain similarities in pottery traditions have been noted at some Axumite and Sudanese sites, see the very cautious remarks of R. FATTOVICH, The Contribution of the Nile Valley's Cultures to the Rising of the Ethiopian Civilization: Elements for an Hypothesis of Work, Meroitic Newsletter 16 (1975), 2—8.

p. 875 n. 921: Further on Nero's territorial dispositions to Roman client kings on the frontiers of Armenia see A. A. BARRETT, Sohaemus, King of Emesa and Sophene, AJPh 98 (1977), 153—159.

p. 879 n. 935: A further Roman fort on the Euphrates frontier has recently been excavated, R. A. STUCKY, Tell el Hajj, AOF 24 (1973), 175. Further on the role of M. Ulpius Traianus see B. H. ISAAC and I. ROLL, A Milestone of A.D. 69 from Judaea: the Elder Trajan and Vespasian, JRS 66 (1976), 18—19.

p. 899 n. 986: Much more may soon be learned about these Red Sea ports. In January—March 1978 an archaeological team from the Oriental Institute in Chicago will begin excavations on the Red Sea at Quseir, ancient Leucos Limen. A brief summary of a surface survey of the site is found in J. H. JOHNSON and D. W. WHITCOMB, A Visit to Quseir on the Red Sea, Oriental Institute, News and Notes no. 35 (May—June, 1977), no page nos. I would like to express my thanks to Mr. DONALD WHITCOMB who discussed the site and the proposed excavations with me.

p. 910 n. 1050: The close connection of Eastern Arabia with the incense-producing areas of Southern Arabia is indicated by the discovery of a dozen South Arabian inscriptions in the area of the oasis of Thaj; see J. P. MANDAVILLE, Thaj: A Pre-islamic site in Northeastern Arabia, BASOR 172 (1963), 10—13. The site has also yielded a stamped handle of a Rhodian amphora of the third century B.C.; see the comments of VIRGINIA GRACE, in: A. JAMME, Sabaean and Ḥasaean Inscriptions from Saudi Arabia, Studi Semitici 23 (Rome 1966), 83—87.

p. 923 n. 1112: Further on the rise of irrigation agriculture and states in Southern Arabia see ABDULLAH H. MASRY, Factors of Growth in the Civilization of Southwestern Arabia: an Ethno-Ecological Approach, University of Riyadh, Bulletin of the Faculty of Arts 3 (1973/74), 49—60. For epigraphic evidence of settled agriculture in graffiti from the Nejran oasis see H. ST. J. B. PHILBY and A. S. TRITTON, Najran Inscriptions, JRAS (1944), p. 125 no. 123; p. 128 no. 136. For a description of the great dam at Marib and comments on its probable effectiveness in irrigation see R. L. RAIKES, Ma'rib dam, Antiquity 51 (1977), 239—240. Further dams, giant cisterns and even two tunnels for carrying irrigation water (at Bainun) have been reported by the 1970 German expedition to the Yemen Arab Republic, W. W. MÜLLER, Ergebnisse der deutschen Jemen-Expedition 1970, AOF 24 (1973), 159—160. For a description of the irrigation system remains in the Wadi Shirjan, see D. B. DOE, The Wadi Shirjan, Bulletin of the Aden Department of Antiquities 4 (1964), 1—2. For the remains of ancient irrigation systems around Shabwa see J. PIRENNE, Première mission archéologique française au Ḥadramout (Yémen du Sud), CRAI (1975), 274.

p. 926 n. 1114: A fragment of another bronze head showing strong Classical influence and similar to the one sent to George V from Yemen (now in the B.M. where I was able to inspect it in August 1977) has been reported to be in the National Museum of the Yemen Arab Republic at San'a, see P. COSTA, Archaeology in the Yemen 1970—71, Proceedings of the Fifth Seminar for Arabian Studies 22—23 Sept., 1971 (1972), 22.

p. 928 n. 1123: Now that the existence of Indo-Aryan linguistic remnants in the Near East have been generally accepted (primarily on the basis of the presence of Vedic gods in the Mitanni treaties), it could also be possible that an occasional Sanskrit word in a Semitic language could be traced back to this still little known Indo-Aryan element, see T. Burrow, The Proto-Indoaryans, JRAS (1973), 2.123—140.

p. 941 n. 1169: As archaeological exploration in the Persian Gulf area continues at a very rapid pace, it is increasingly being realized that the contacts between lower Mesopotamia and Eastern Arabia on the one hand and the, as yet somethat less well documented, contacts between Eastern Arabia and Southern Iran across the Gulf are of very considerable antiquity. Northeastern Arabia has yielded a large number of sites, mostly along the coast and on the islands, but also stretching inland to the oases such as Hufhuf, with pottery typical of the Ubaid period in Southern Mesopotamia. This points to contacts — what form these took is still a matter of speculation — between the two regions as early as the fourth millennium B.C. See J. Oates, Prehistory in Northeastern Arabia, Antiquity 50 (1976), 20—30. Ubaid-type pottery has also been noted on the surface at El-Da'asa and Ras Abaruk in Qatar where a British survey team noted that these coastal sites had the appearance of having been used only seasonally by hunting or fishing folk; see B. de Cardi, The British Archaeological Expedition to Qatar 1973—74, Antiquity 48 (1974) 197—198. For the Ubaid material from oases and other inland sites as well as Tarut Island in Northeastern Arabia, see M. Golding, Evidence for Pre-Seleucid Occupation of Eastern Arabia, Proceedings of the Seventh Seminar for Arabian Studies, 1973, (1974), 24—26; for Oman sites see G. Burkholder and M. Golding, A Surface Survey of the Ubaid Sites in the Eastern Province of Saudi Arabia, Artibus Asiae 33 (1971), 294—295. Various physical and chemical analyses of the Ubaid pottery from Northeastern Arabia suggest that most of the material was imported from Mesopotamia, leading to the suggestion that merchant seamen or fishermen brought this pottery for use in temporary encampments set up on the shore, see J. Oates, T. E. Davidson, D. Kamilli and H. McKerrell, Seafaring Merchants of Ur, Antiquity 51 (1977), 221—234. Certain broad similarities of cultural traits also link the area to contemporary cultures of Southern Iran, Baluchistan and Turkestan, on which see V. M. Masson, The Urban Revolution in South Turkmenistan, Antiquity 42 (1968), 184—187. On the island of Umm an-Nar off Abu Dhabi and at the oasis of Buraimi in Oman burial mounds of the early third millenium B.C. have yielded pottery and other artifacts which bear a resemblance to material from Bampur and Tepe Yahya in Southern Iran, Mundigak in Afghanistan and sites of the Kulli Culture in Baluchistan, see K. Frifelt, Jamdat Nasr Graves in the Oman, KUML (1970), 374—383; Idem, Excavations in Abu Dhabi (Oman), Artibus Asiae 33 (1971), 296—297; so also sites in Wadi Bahla in Oman, J. H. Humphries, Harvard Archaeological Survey in Oman: II — Some Later Prehistoric Sites in the Sultanate of Oman, Proceedings of the Seventh Seminar for Arabian Studies, 1973 (1974), 49—52. Third millennium sites in Central Oman show affinities with Tepe Yahya and Bampur, see B. de Cardi, Survey and Excavations in Central Oman, 1974—75, Journal of Oman Studies 1 (1975), 110. For numerous similar sites in the hinterland of Muscat, see A. Hastings, J. H. Humphries and R. H. Meadow, Oman in the Third Millennium B.C.E., Journal of Oman Studies 1 (1975), 9—16. The inclusion of Baluchistan in this hypothetical third millennium trade network is suggested by R. Mughal, Explorations in Northern Baluchistan, 1972, in: F. Bagherzadeh (ed.), Proceedings of the IInd Annual Symposium on Archaeological Research in Iran, 29th October—1st November, 1973 (Tehran 1974), 279—280. (For the chronological limits of Kulli Culture see R. H. Meadow, A Chronology for Indo-Iranian Borderlands and Southern Baluchistan: 4000—2000 B.C., in: D. P. Agrawal and A. Ghosh (eds.), International Symposium on Radiocarbon and Indian Archaeology (Bombay 1973), 196—202.) Contacts of Eastern Arabia with Southern Iran are also confirmed by the discovery of the use of a Persian Gulf seal on a document from Susa, M. Lambert, Tablette de Suse avec cachet du Golfe, RAssyr 70 (1976), 71—72, fig. 1. At Tepe Yahya a Persian Gulf seal has also been found, see C. C. Lamberg-Karlovsky, The Proto-Elamite Settlement at Tepe Yahya, Iran 9 (1970), 94. Among the bronze artifacts uncovered in the Barbur temple (on Bahrein) is a small figurine thought to be a mirror handle and with close parallels to finds from Kulli Culture sites in Baluchistan; see E. C. L. D. Caspers, Sumer and Kulli meet at Dilmun in the Arabian Gulf, AOF 24

(1973), 128—132. The Danish excavations at Qala'at el-Bahrein turned up a set of uninscribed stone weights which agree in both shape and weight with those used in the Indus Valley, see G. Biddy, . . . According to the Standard of Dilmun, KUML (1970), 349—353.
For the date of the large temple at Barbar on Bahrein, see P. Mortenson, On the Date of the Temple at Barbar in Bahrain, KUML (1970), 393—398 (three phases from the early third millennium B.C. to 2200 B.C.); for the third millennium finds on Bahrein see E. C. L. D. Caspers, The Bahrain Tumuli, Proceedings of the Fifth Seminar for Arabian Studies, 22—23 Sept. 1971 (1972), 9—18. A number of Persian Gulf seals have also been found in the tumuli excavated at El-Hajjar, see M. Rice, The Grave Complex at Al Hajjar, Bahrain, Proceedings of the Fifth Seminar for Arabian Studies, 22—23 Sept., 1971 (1972), 70—74. For a Persian Gulf seal impression on a dated Babylonian document see B. Buchanan, A Dated Seal Impression Connecting Babylonia and Ancient India, Archaeology 20.2 (1967), 104—107. A Kassite cylinder seal has also recently been excavated on Failaka, see A. J. Ferrara, A Kassite Cylinder Seal from the Arabian Gulf, BASOR 225 (1977), 69. For the existence of seal-cutters' workshops on Bahrein itself see E. C. L. D. Caspers, A Dilumite Seal-cutter's Misfortune, Antiquity 51 (1977), 54—55. For the history of the study of the various styles of seals involved in the controversy over Persian Gulf and Harappan trade and the relationship of such finds to the chronology of Harappan Culture, see R. H. Brunswig, Radiocarbon Dating and the Indus Civilization: Calibration and Chronology, E&W n.s. 25.1/2 (1975), 114—120. Further surveys of the evidence for Harappan contact with the Persian Gulf have been published by E. C. L. D. Caspers, Harappan Trade in the Arabian Gulf in the Third Millennium B.C., Proceedings of the Sixth Seminar for Arabian Studies, 27—28 Sept., 1972 (1973), 3—17. All of the texts which refer to the presence of people from Meluḫḫa, most with Sumerian names, and even a Meluḫḫa village in Mesopotamia are analysed by S. Parpola, A. Parpola and R. H. Brunswig, The Meluḫḫa Village: Evidence of Acculturation of Harappan Traders in Late Third Millennium Mesopotamia, JESHO 20.2 (1977), 129—164. Their conclusion, that settlers from the Indus are involved, cannot be proven from the documents cited since, of course, the adoption of such ethnic names is subject to many different explanations (as pointed out elsewhere in this study and in a note by D. O. Edzard, ibid., 164—165).
Further on the commercial importance of Dilmun in the third millennium B.C. see W. F. Leemans, The Importance of Trade, Iraq 39.1 (1977), 4—6. The literary and documentary references to Dilmun have been subjected to detailed study by G. Komoroczy, Gimn o torgovle Til'muna, Drevnii Vostok 2 (1976), 5—36; Idem, Tilmun als 'Speicher des Landes' im Epos 'Enki und Ninhursag', Iraq 39.1 (1977), 67—70.
Lambert himself acknowledges that commercial motives are an unlikely explanation for Nabonidus' long sojourn at Teima, see W. G. Lambert, Nabonidus, Proceedings of the Fifth Seminar for Arabian Studies 22—23 Sept., 1971 (1972), 58—63.

p. 941 n. 1170: The identification of the large artificial basin at Lothal as a dockyard made by Rao has been convincingly challenged by L. S. Leshnik, The Harappan 'Port' at Lothal: Another View, AmerAnthro 70.5 (1968), 911—922 who argues that the structure is most probably an irrigation reservoir.

p. 942 n. 1171: The surface pottery finds at Thaj have been classified as primarily 'Roman' and the site dated late first to mid-third centuries, see P. W. Lapp, Observations on the Pottery of Thaj, BASOR 172 (1963), 20—22.

p. 942 n. 1174: For Seleucid period finds from the Bahrein tumuli (at El-Hajjar) see M. Rice, Proceedings of the Fifth Seminar for Arabian Studies, 22—23 Sept., 1971 (1972), 67—69, 72—74.

p. 943 n. 1178: The possibility has recently been raised that the Eastern Desert was also the major source for tin in the Near East in the Dynastic period, see J. D. Muhly, Iraq 39.1 (1977), 76—77.

p. 948 n. 1189: Both of the Aramaic texts from Laghman have been re-edited and re-interpreted by V. A. Livshitz and I. Sh. Shifman, K tolkovaniiu novykh arameiskikh nadpisei Ashoki, VDI (1977), 2.7—24.

p. 954 n. 1214: Pirenne has adopted a similarly late date for the advent of Christianity in Axum, see J. PIRENNE, A Palaeographical Chronology of the Sabaean-Dated Inscriptions with Reference to Several Eras, Proceedings of the Seventh Seminar for Arabian Studies, 1973 (1974), 127—129.
The discovery of Axumite coins or their imitations in more readily dated contexts in the Near East may yet resolve this vexing controversy. An early Christian Axumite bronze coin has been found at Caesarea, but unfortunately not in a dated context, see A. SPAER, An Axumite Coin from Caesarea, INJ 3 (1965/66), 76, pl. XV.2.

p. 955 n. 1217: Two further new Axumite *aurei* were published by G. TRINGALI, Due Aurei Aksumiti inediti esposti all'Asmara Expo '72', JES 11.1 (1973), 209—211.

p. 956 n. 1222: PIRENNE again defends the general outline of her palaeographic reconstruction and her late date for the 'Periplus' in J. PIRENNE, Proceedings of the Seventh Seminar for Arabian Studies, 1973 (1974), 118—130 and in IDEM, CRAI (1975), 263—264.
For the similarity of Greek and South Arabian epigraphic practice see the comments of A. M. HONEYMAN, Epigraphic South Arabian Antiquities, JNES 21.1 (1962), 40—41.

p. 957 n. 1224: The chronological problems of this site may be resolved by new excavations which are to begin at the site in March 1978 under the direction of Dr. ZAHI A. HAWWAS. I would like to express my appreciation to Dr. HAWWAS who discussed the proposed excavations with me during a recent visit to Duke University.

p. 961 n. 1240: The site of Khor Rori in Dhofar has yielded a number of epigraphic texts indicating that this ancient port (called Samaramm in the inscriptions and probably the Μόσχα λιμήν of Periplus c. 32) was built by order of the kings of the Hadhramaut, see J. PIRENNE, The Incense Port of Moscha (Khor Rori) in Dhofar, Journal of Oman Studies 1 (1975), 85—89, nos. 2—4 (For the meaning of *qtdm* in these inscriptions see a Hadrami text from Ṣalalah in A. JAMME, Remarks on the South Arabian Inscriptions 3—13, JRAS [1956], 151).

p. 962 n. 1244: The earliest evidence for the presence of Athenian tetradrachms in Iran has recently been published by C. G. STARR, A Sixth-century Athenian Tetradrachm used to Seal a Clay Tablet from Persepolis, NC 7 ser. 16 (1976), 219—222. The coin was used to seal a tablet in the Fahliyan area which eventually ended up at Persepolis (published as PFT 2053).

p. 964 n. 1247: The most recent survey of Lihyanite chronology by A. R. AL-ANSARY, The Chronology of Lihyan, University of Riyadh, Bulletin of the Faculty of Arts 1 (1970), 53—60 returns to the general chronological scheme advocated by WINNETT, placing all except the very last Lihyanite period before the Hellenistic period.

p. 970 n. 1289: My comment here perhaps appears somewhat ill advised in the light of O. MURRAY, Herodotus and Hellenistic Culture, CQ 22.2 (1972), 205—206.
The assumption made in all studies of the problem of the use of the Monsoons in Antiquity is that they always blew over the same area that they do today. It has, however, been suggested by some scholars studying the history of the early kingdoms of Southern Arabia that a major shift in air circulation in the early centuries of the present era brought a long period of aridity to this region, see A. H. MASRY, University of Riyadh, Bulletin of the Faculty of Arts 3 (1973/74), 61—62. If correct this would have been the result of a southward shift of the Southwest Monsoon which brings moisture to this part of the Asian continent; cf. however, R. W. CHAPMAN, Climatic Changes and the Evolution of Landforms in the Eastern Province of Saudi Arabia, Bulletin of the Geological Society of America 82 (1971), 2713—2716 who places the end of the most recent pluvial period in Arabia before 2000 B.C.

p. 972 n. 1295: For Callimachus and his titles see now J. D. THOMAS, The Epistrategos in Ptolemaic and Roman Egypt pt. 1: The Ptolemaic Epistrategos (Opladen 1973), 71—72.

p. 981 n. 1348: A surface survey of the remains at Qurayyah (about 100 kms. north of Rawwafah) has yielded evidence of Nabataean, Roman and early Byzantine occupation, see J. E. DAYTON, A Roman/Byzantine Site in the Hejaz, Proceedings of the Sixth Seminar for Arabian Studies, 27—28 Sept., 1972 (1973), 21—25.

p. 981 n. 1348: The Nabataean military and civil administrative structure at Medain Salih has recently been studied by A. NEGEV, The Nabatean Necropolis at Egra, RB 83.2 (1976), 223—231 on the basis of the inscriptions from the tombs at Egra.

p. 984 n. 1359: Further sherds of green-glazed pottery have been reported by a British survey team at Umm el-Ma in Qatar, see B. DE CARDI, Antiquity 48 (1974), 199. The excavation of several tumuli on Bahrein has also yielded evidence of Parthian contact with the island, see E. C. L. D. CASPERS, Proceedings of the Fifth Seminar for Arabian Studies, 22—23 Sept., 1971 (1972), 15—18. Among the finds was glass assigned to Syrian workshops of the first century of our era.
The archaeological and literary evidence for the period of Sasanian control in Oman (from Ardashir I to the advent of Islam) is studied by J. C. WILKINSON, Arab-Persian Land Relationships in Late Sasanid Oman, in Proceedings of the Sixth Seminar for Arabian Studies, 27—28 Sept., 1972 (1973), 40—51; IDEM, The Julanda of Oman, Journal of Oman Studies 1 (1975), 98—99. For the Sasanian period of control at Sohar in Oman see A. WILLIAMSON, Harvard Archaeological Survey in Oman, 1973: III — Sohar and the Sea Trade of Oman in the Tenth Century A.D., Proceedings of the Seventh Seminar for Arabian Studies, 1973 (1974), 83—84.
Surface surveys of both inland and coastal sites in Oman indicate that from the third millennium B.C. until early in the present era the closest connection of this part of Arabia to any outside area has been to Southern Iran (as indicated by sites such as Tepe Yahya and Bampur), see J. H. HUMPHRIES, Proceedings of the Seventh Seminar for Arabian Studies, 1973 (1974), 52—54.

p. 986 n. 1360: A single small sherd of Indian Red Polished ware has been found on the surface at Umm el-Ma in Qatar, B. DE CARDI, Antiquity 48 (1974), 199.

p. 988 n. 1368: On the question of tectonic changes in the lower Indus valley manifested by both coastal uplift and alterations in the course of the river see the speculative remarks of R. L. RAIKES, The Mohenjodaro Floods, Antiquity 39 (1965), 196—203, cf. G. L. POSSEHL, The Mohenjo-daro Floods: A Reply, AmerAnthro 69.1 (1976), 32—40.

p. 989 n. 1372: In regard to the care which is necessary in the interpretation of overstrikes, it is worth noting that there are known cases where rulers whose connections were both familial and friendly resorted to this practice in dealing with the other's coins; see C. M. KRAAY, Fifth-century Overstrikes at Rhegium and Messana, in Atti del Convegno del Centro internazionale di Studi Numismatica, Napoli 1976: La circolazione della moneta ateniese in Sicilia e in Magna Grecia AIIN Suppl. 12—14, (1969), 142.

p. 990 n. 1376: The analysis of the Indian hoards given in this paper was written before I was able to obtain a copy of C. RODEWALD, Money in the Age of Tiberius (Manchester 1976). A number of R's views (pp. 47—51) about the hoards of Southern India are in substantial agreement with my own, although his good judgement is occasionally led astray by much of the nonsense in earlier studies of Roman-Indian trade.

p. 990 n. 1377: In 1970 a small hoard of aurei was found at Adam in Nagpur District, Maharashtra State of which 11 were recovered (one Augustus, ten Tiberius), see K. O. KAWADKAR, Adam Hoard of Roman Coins, JNSI 34.2 (1972), 243—247. The discovery of small numbers of Roman coins in India continues and as a result of the very generous cooperation of various dealers and Dr. W. METCALF of the American Numismatic Society several further finds have come into my hands in the past two years. Most of these are second and early third century *aurei* and their Indian imitations. Most noteworthy among these is a find of 8 *aurei* and their imitations, including several with much more carefully copied legends than any previously found. Dr. P. L. GUPTA has also informed me verbally of the discovery of a recent further hoard of *aurei* (about 30) of this period found at Bangalore. During August 1977 I was able to work at the India Office Library on the documents of Madras State. A search through these has yielded further finds not on WHEELER's list as well as enabling me to identify more closely other coins listed by WHEELER and GUPTA.

p. 996 n. 1416: The metrological statistics available as a basis for my remarks here have been greatly increased by the publication of the first two volumes of D. R. WALKER, The Metrology of the Roman Silver Coinage, pt. 1: from Augustus to Domitian, British Archaeological Reports, Supplementary series, no. 5 (Oxford 1976); pt. II: from Nerva to Commodus, BAR Supplementary series no. 22 (Oxford 1977). Both volumes not only should be consulted for analyses but also for several other problems treated in the notes that follow. Before the appearance of WALKER's work Professor ELIZABETH J. ROCK, Director of the Science Center at Wellesley College and her assistant Miss E. A. CARON undertook at my suggestion a study of the fineness of Flavian silver coinage. This study is currently underway and with the generous participation of Dr. W. E. METCALF and the A.N.S. it should be possible to analyse by atomic absorption spectrophotometry several hundred coins.

p. 1005 n. 1461: The general statement made here was confirmed by my visit to Egypt in July 1977. Through the generosity of Dr. ALI HASSAN, Director General of the Egyptian Museum in Cairo, and the assistance of the keeper of the numismatic collection, Mr. KHAFIF, I was able to go through the museum's accessions file. Finds of imperial silver and gold are exceedingly rare until the fourth and fifth centuries when finds of imperial gold appear to become relatively common. I should also like to express my gratitude to Dr. YUSEF EL-GHERIANY, Vice Director of the Greek and Roman Museum in Alexandria who discussed the contents of his massive (about a half million pieces) Ptolemaic and Roman collection with me. Here again gold coins of the fourth and fifth century are relatively common but no earlier imperial coins appear to be in the collection.

p. 1010 n. 1480: For the dominance of silver in third millennium Mesopotamian merchants' accounts see D. C. SNELL, The Activities of some Merchants of Umma, Iraq 39.1 (1977), 45—50.

p. 1013 n. 1495: Myrrh is also mentioned in a prescription for an eye-salve of the second or third century, see L. C. YOUTIE, A Medical Prescription for an Eye-salve (P. Princ. III. 155R), ZPE 23 (1976), 121—129.

p. 1015 n. 1507: Several very salutary methodological principles (with application well beyond the fourth century) for the compiling of ancient price statistics are put forward in a recent article by R. S. BAGNALL and P. J. SIJPESTEIJN, Currency in the Fourth Century and the Date of CPR V.26, ZPE 24 (1977), 115.

p. 1015 n. 1509: H. GOMORAN, Talmudic Usury Laws and Business Loans, Journal for the Study of Judaism 7.2 (1976), 129—142 argues that despite Talmudic prohibitions against usury no effort was made by Jewish judges to interfere with what were seen to be economically necessary transactions, i.e. loans for investment as distinct from loans for consumption.

p. 1016 n. 1510: The evidence for the trade in wood, including for shipbuilding, in Ptolemaic and Roman Egypt is collected in H. CADELL, P. Genève 60, B.G.U. II.456 et le problème du bois en Égypte, CE 51 (1976), 331—348.

p. 1020 n. 1525: On the identity of the *Gebbanitae* see A. F. L. BEESTON, Pliny's Gebbanitae, Proceedings of the Fifth Seminar for Arabian Studies 22—23 Sept., 1971 (1972), 4—8.

p. 1020 n. 1529: The evidence for the advent of iron in India is reanalysed by D. K. CHAKRABARTI, Distribution of Iron Ores and the Archaeological Evidence of Early Iron in India, JESHO 20.2 (1977), 166—184 who accepts dates as early as c. 1000 B.C.; cf. also A. SUNDARA, Chronological Order of Megalithic Tomb-types in Karnataka, in: D. P. AGRAWAL and A. GHOSH (eds.), International Symposium on Radiocarbon and Indian Archaeology (Bombay 1973), 246—247. For studies of the slag from an early Indian smelting site at Dhatwa see K. T. M. HEGDE, Early Stages of Metallurgy in India, in: ibid., 402—404.
The significance of the reported discovery of an uninscribed copper cast coin in a level attributed to c. 900 B.C. at Kausambi is discussed by K. K. SINHA, Stratigraphy and Chronology of Early Kausambi — a Reappraisal, in: ibid., 231—235 who lowers the chronology of the site by about 400 years.

p. 1021 n. 1530: A late chronology for the megaliths of South India is argued by L. Leshnik, South Indian 'Megalithic' Burials (Wiesbaden 1974), 172—185; cf. D. K. Chakrabarti, JESHO 20.2 (1977), 182—183 who argues for dates as early as c. 1000 B.C. for the first appearance in the North).

p. 1024 n. 1536: Fragments of imported *amphorae* have also been reported from the Axumite site of Degoum, see F. Anfray, Nouveaux sites antiques, JES 11.2 (1973), 17.

p. 1027 n. 1549: Perhaps one of the most remarkable instances of Indian imitations is the introduction of a female hair style popular in the era of Augustus into the subcontinent, see D. Schlumberger, Coiffures féminines similaires à Rome et dans l'Inde, in: R. Chavallier (ed.), Mélanges d'archéologie et d'histoire offerts à André Piganiol vol. 1 (Paris 1966), 587—595.

p. 1031 n. 1564: A further gold punch-marked coin was found upon physical analysis to be a modern imitation, see H. C. Bhardwaj and S. Misra, On the Authenticity of an Alleged Gold Punch-Marked Coin, JNSI 34 (1972), 101—105.

p. 1033 n. 1569: It has been suggested that the earliest Chola and Pandyan coins are rectangular in imitation of the punch-marked coins which preceded them, see N. Subrahmanian and K. V. Raman, Some Early Coins of Tamilaham, JNSI 34 (1972), 247—250.

p. 1041 n. 1601: The excavations at Sukas have left the impression that a strong Greek element settled in an already existing Phoenician town, see P. J. Riis, The First Greeks in Phoenicia and their Settlement at Sukas, Ugaritica 6 (1969), 449—450.

p. 1053 n. 1675: For new trial soundings at Pangkalan Bujang and a new survey of the monuments of the Merbok Estuary see J. Stargardt, The Extent of Limitations of Indian Influences on the Protohistoric Civilizations of the Malay Peninsula, in: N. Hammond (ed.), South Asian Archaeology, 279—301.

p. 1053 n. 1675: For the earliest palaeographically dated Sanskrit inscriptions from Java, see W. J. van der Meulen, In Search of 'Holing', Indonesia 23 (1977), 103—105.

p. 1059 n. 1714: In attempting to explain the absence of such finds of imported Oriental goods one may resort to an analogous situation in the documentation of early Mesopotamian trade. An abundance of imports is attested by the documents but almost no exports have been archaeologically attested in Mesopotamia's assumed trade-partners. The explanation put forward, that perishable goods were involved, is also valid for the relative lack of archaeological evidence for imported goods from India found in the Roman Empire. For Mesopotamia see H. E. W. Crawford, Mesopotamia's invisible exports in the third millennium B.C., WA 8 (1977), 232—239.

p. 1061 n. 1721: The revolt of Domitius Domitianus is the subject of a monograph by J. Schwartz, who appears (pp. 126—132) to favour a date of 296/297 for the rebellion; J. Schwartz, L. Domitius Domitianus, Étude Numismatique et Papyrologique, Papyrologica Bruxellensia 12 (Bruxelles 1975). The date of the revolt was again thoroughly treated by J. D. Thomas, The Date of the Revolt of L. Domitius Domitianus, ZPE 22 (1976), 253—279 (with A. Geissen, Numismatische Bemerkung zu dem Aufstand des L. Domitius Domitianus, ibid., 280—286) and Idem, A Family Dispute from Karanis and the Revolt of Domitius Domitianus, ZPE 24 (1977), 233—240 who has favoured a date of 297/298.

p. 1063 n. 1724: A survival of the Meroitic kingdom into the early fourth century is also supported by Desanges on the basis of evidence drawn from early Christian literary sources, see J. Desanges, Un point de repère chronologique dans la période tardive du royaume de Meroé, Meroitic Newsletter 7 (1971), 2—5.

p. 1063 n. 1725: For Blemmye activity in the Eastern Desert and both on and by the Red Sea in the late fourth century see J. Desanges, Les raids des Blemmyes sous le règne de Valens, en 373—374, Meroitic Newsletter 11 (1972), 32—34.

p. 1064 n. 1727: The precise dating of the Palmyrene invasion(s) of Egypt is again discussed by J. Schwartz, Chronologie du IIIe s.p.C., ZPE 24 (1977), 174—176.

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  4: nn. 747, 1734
  5: nn. 747, 1734

O.Nisa
  1760: n. 747
  1949: n. 747

PalSb
  23 (1971), 92–99: n. 1708

PFT
  no. 1224: n. 1605
  no. 2072: n. 1605

PTT
  no. 15: n. 1605
  no. 21: n. 1605
  no. 85: n. 1480

RN
  6ser. 10 (1968), 175–178: n. 708

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  12 (1964), 231–251, no. 19: n. 652
  12 (1964), 231–251, no. 25: n. 652
  12 (1964), 231–251, no. 39: n. 652
  12 (1964), 231–351, no. 52: n. 652
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RAssyr 68.2 (1974), 157–166: n. 1130

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UET 5.796: n. 1770

YOS 6.168: n. 282

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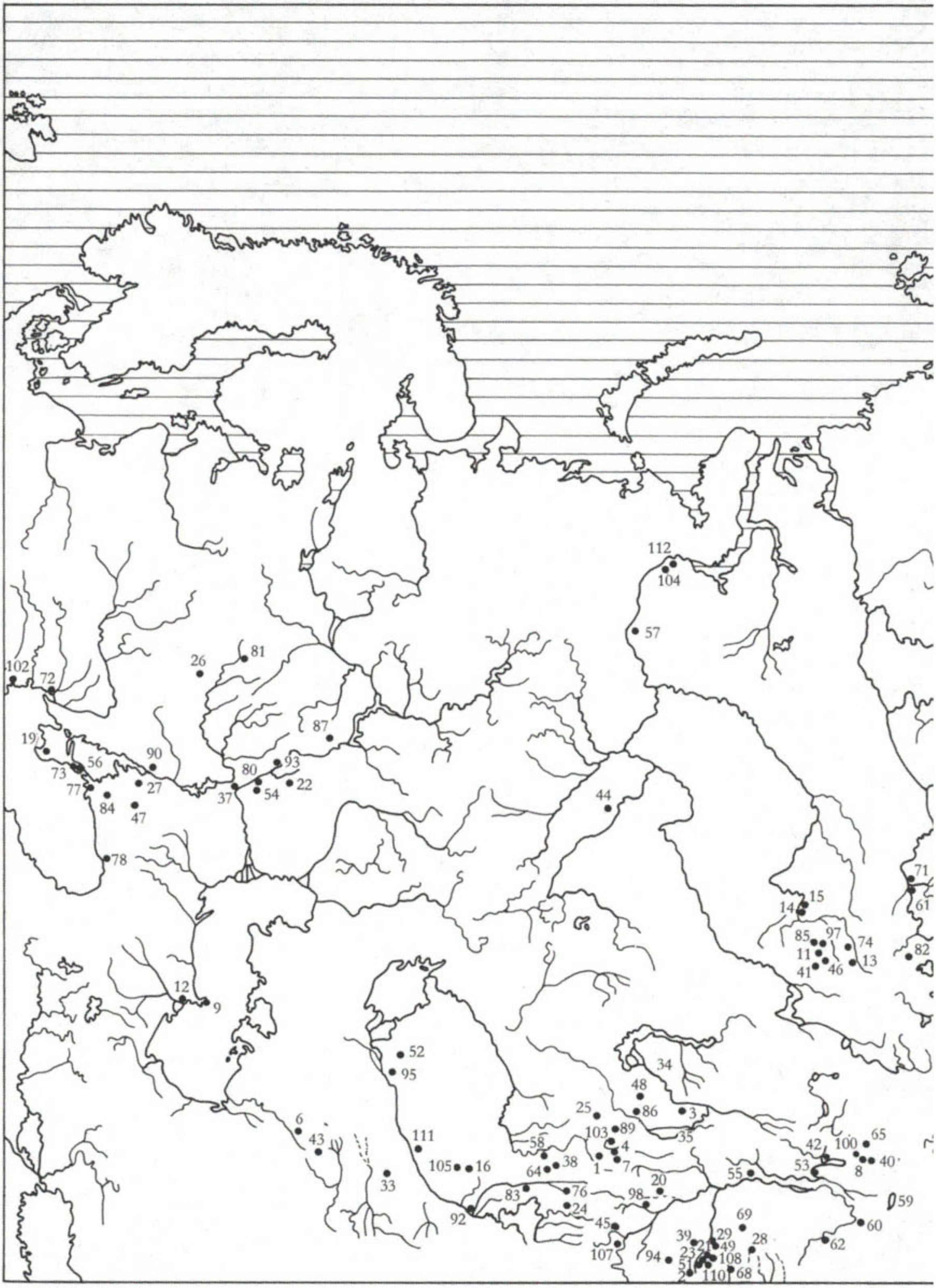
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86
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89
103
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42
100
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111
105
16
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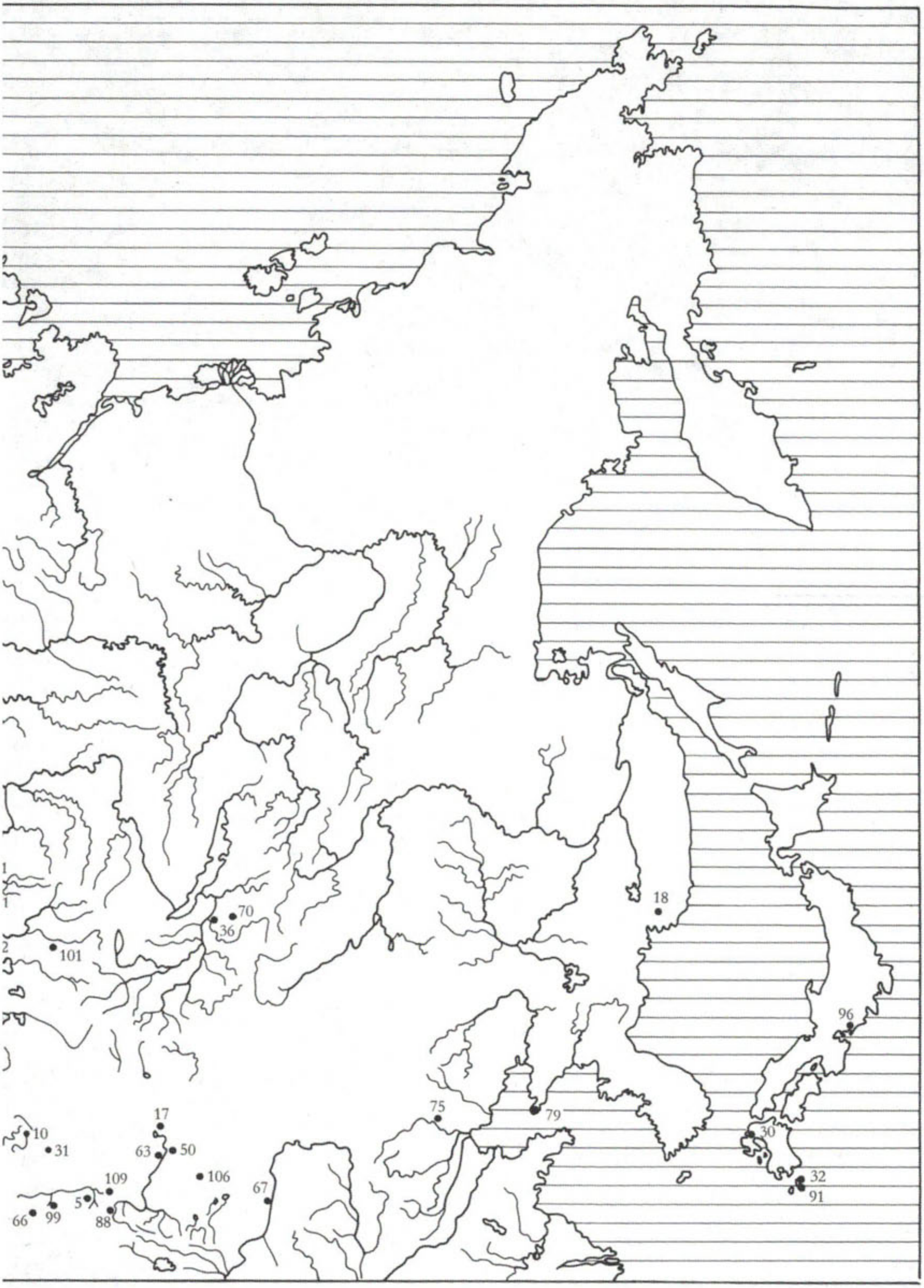
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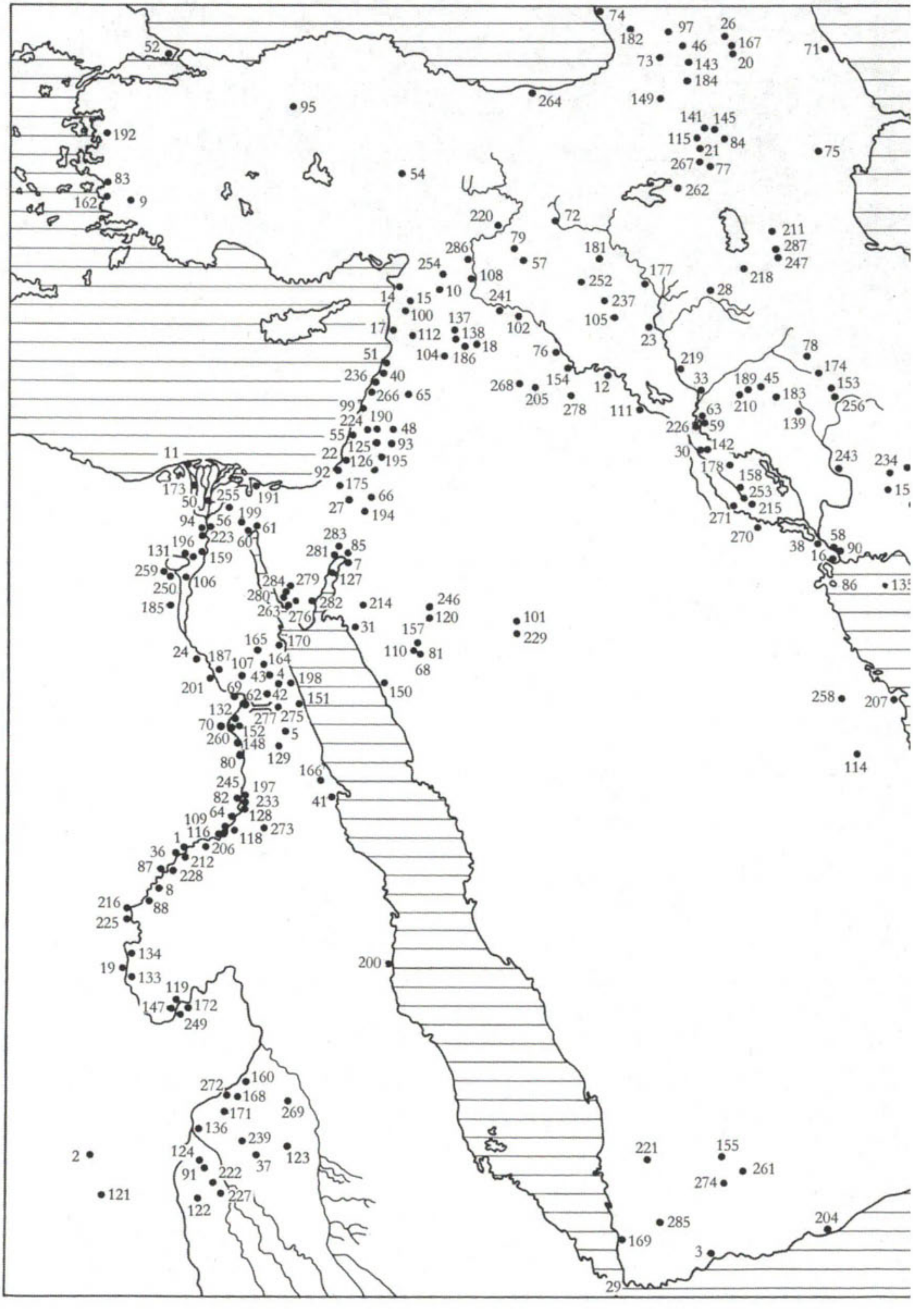
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162
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181
287
286
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254
108
177
218
252
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241
237
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186
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266
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278
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16
259
127
106
284
279
86
135
250
280
282
214
246
185
263
276
120
101
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157
229
170
165
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187
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107
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201
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207
151
132
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275
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152
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260
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245
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128
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212
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225
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249
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272
168
171
269
136
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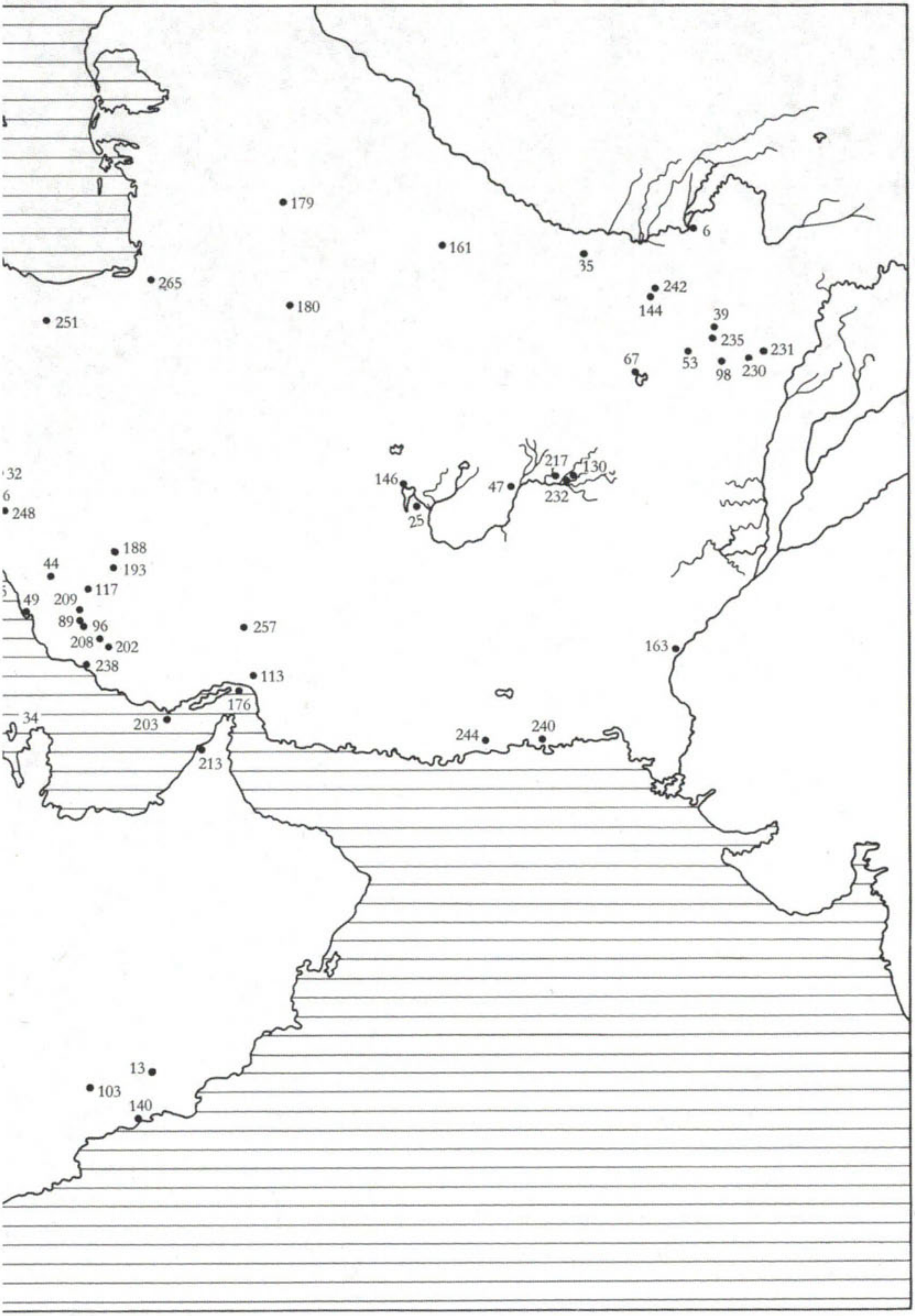
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248
188
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193
117
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202
163
238
113
176
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244
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213
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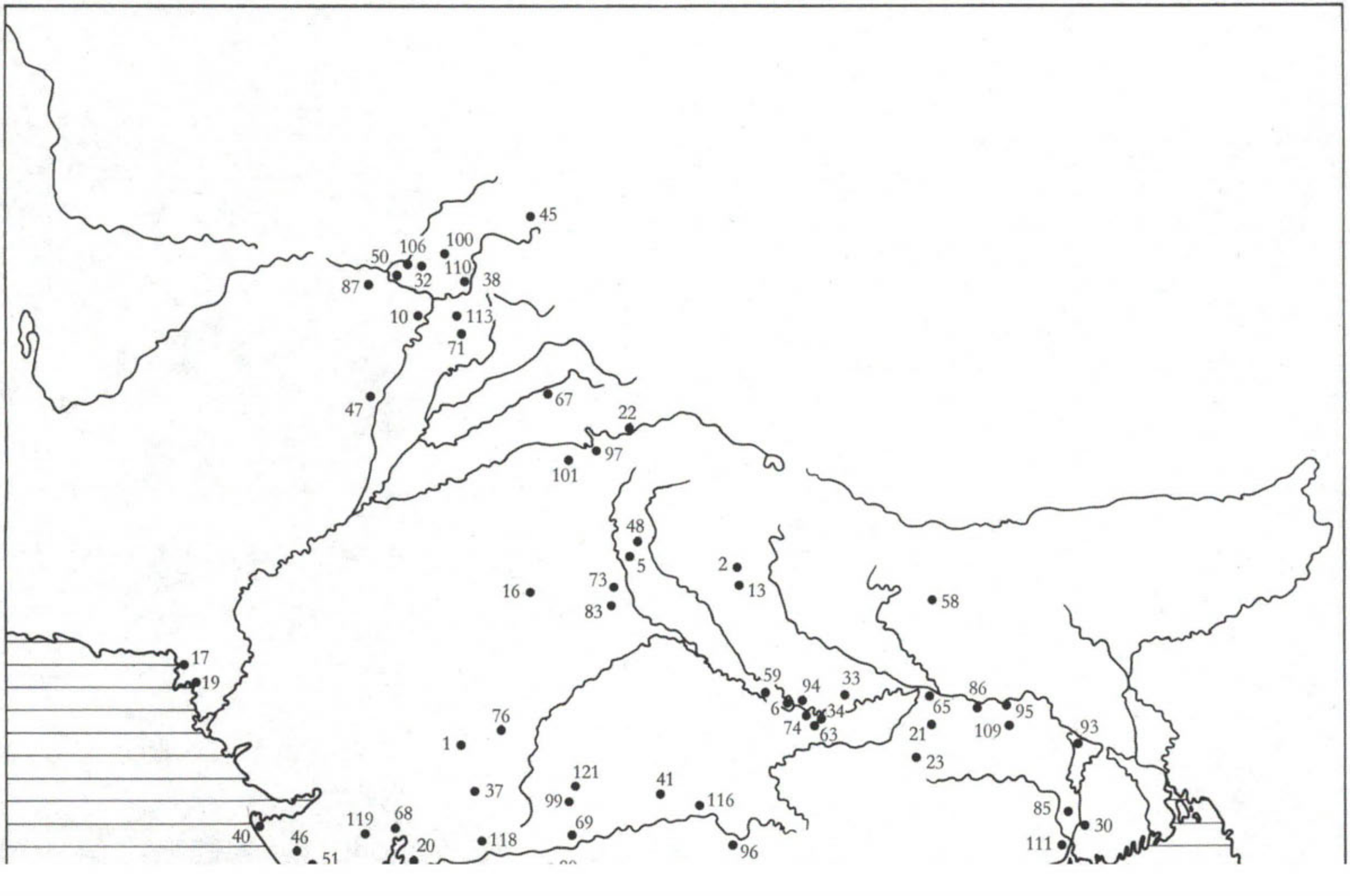
103
140

MAP III.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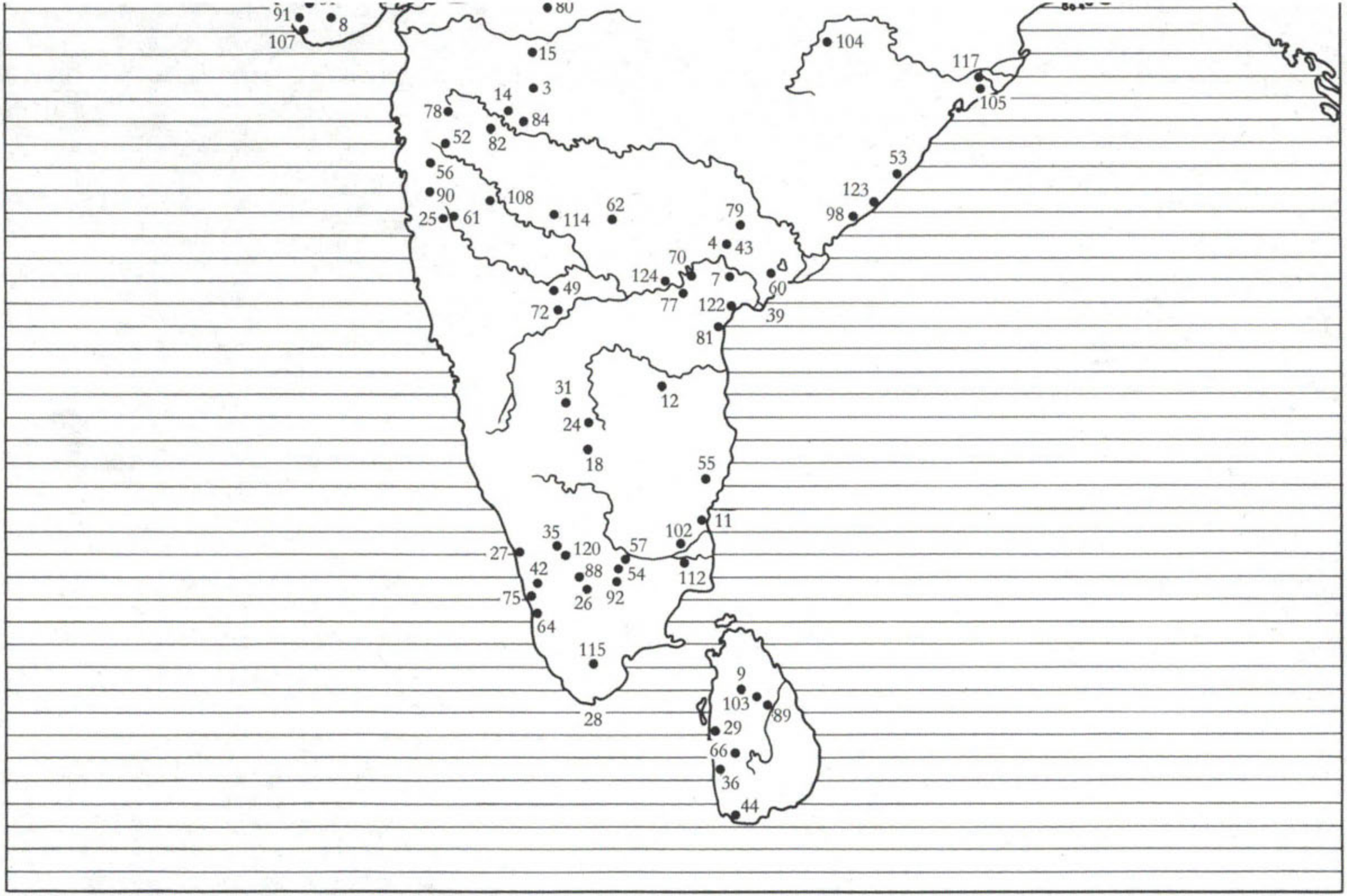
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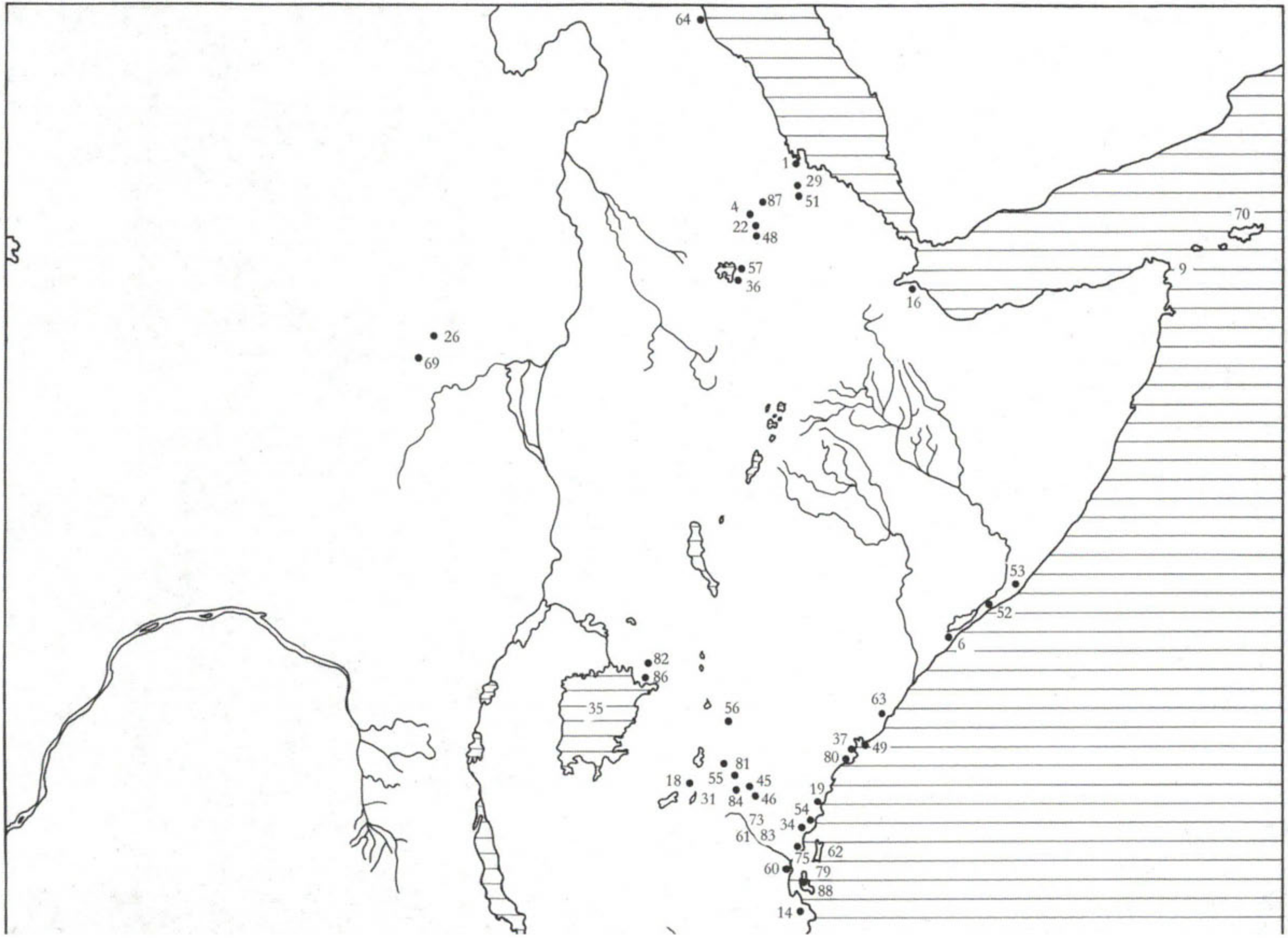
MAP IV.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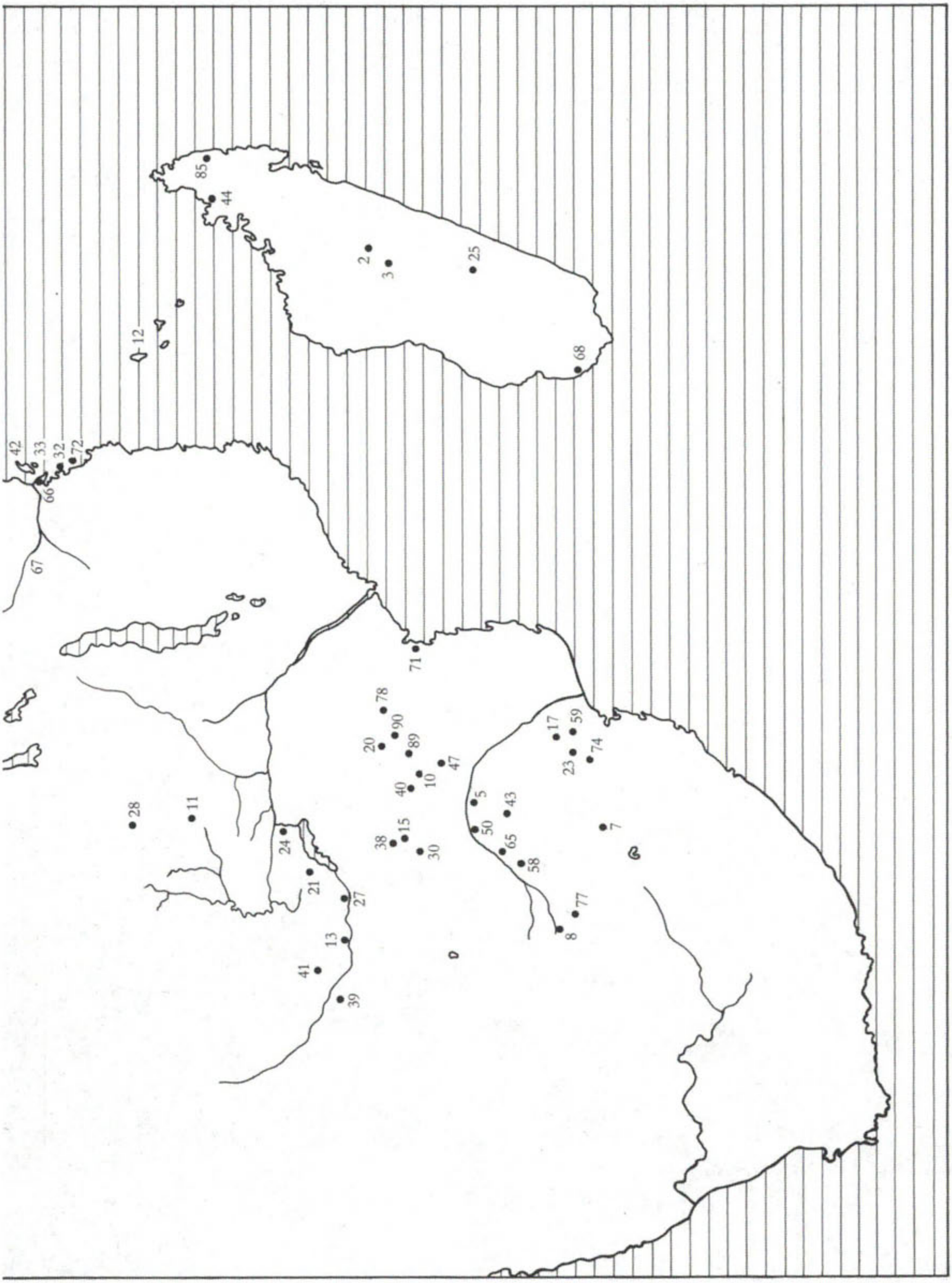
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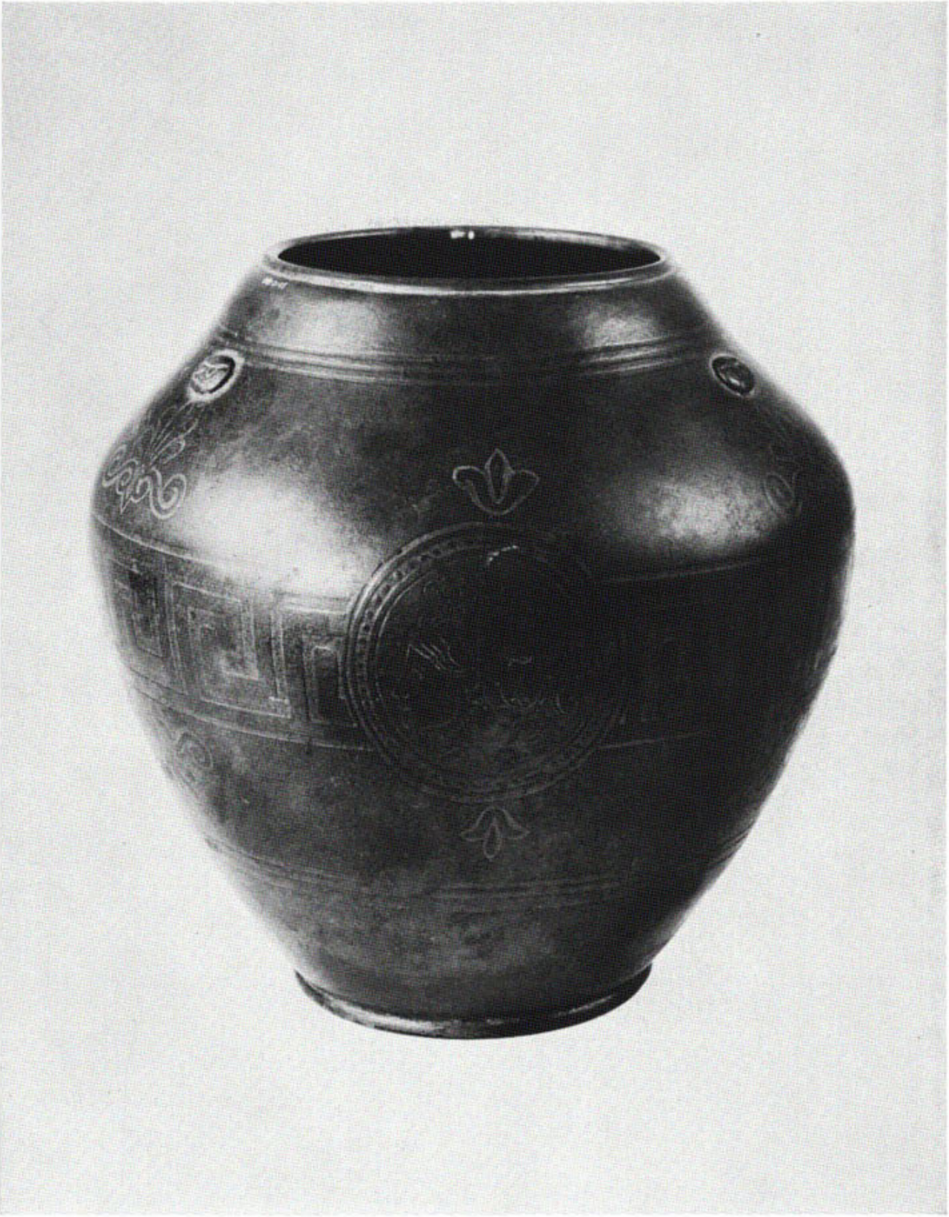
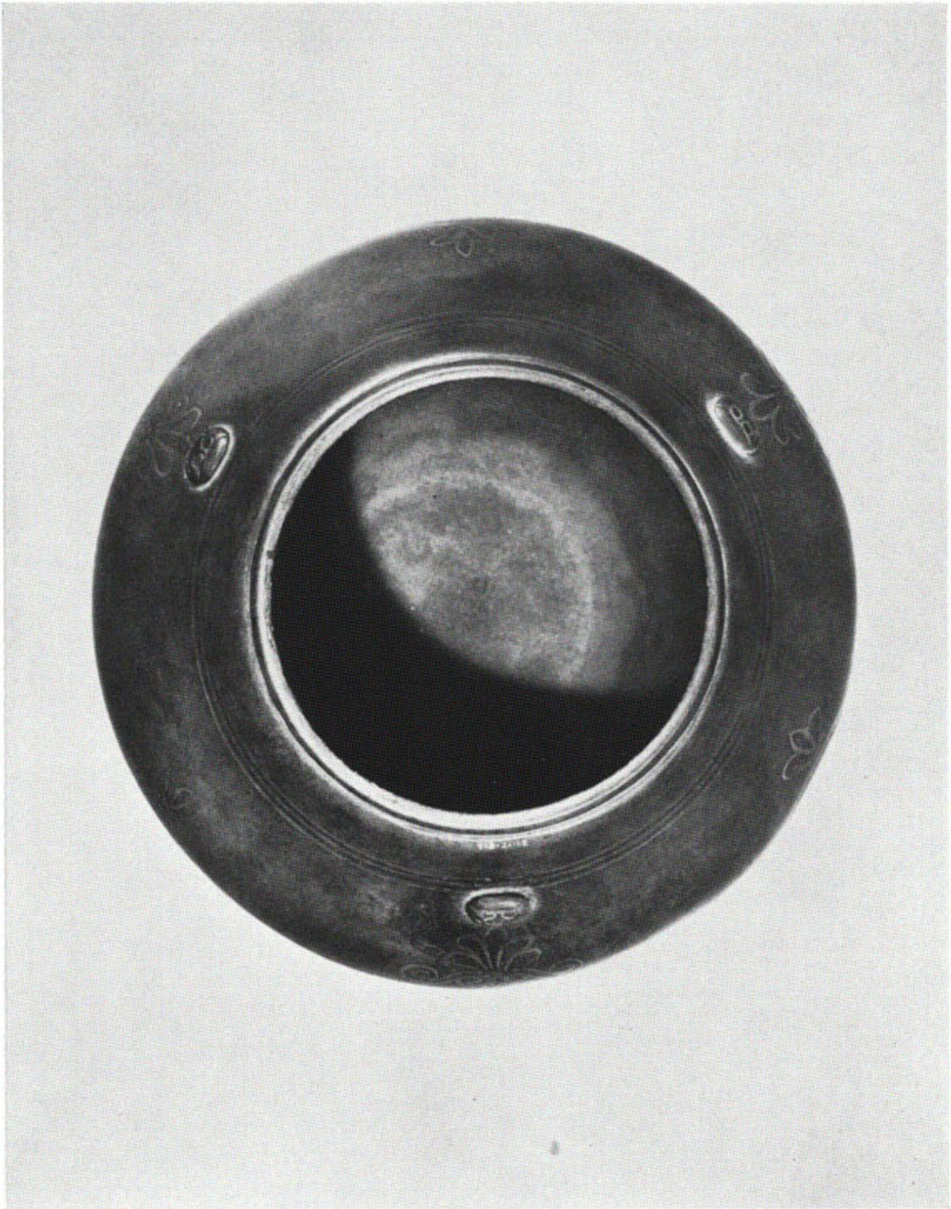


No. 655 of the George Crofts Collection, Royal Ontario Museum, Toronto



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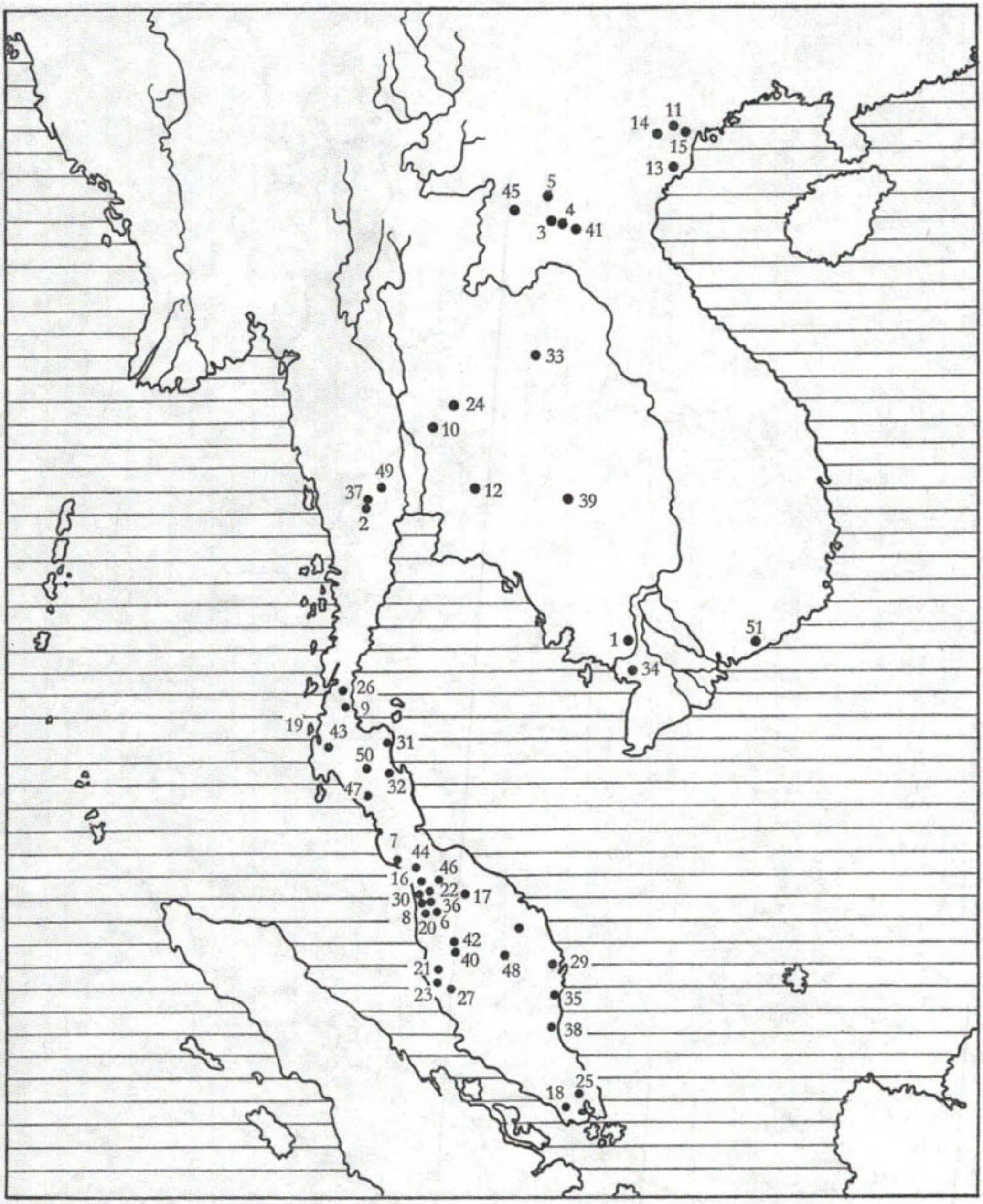
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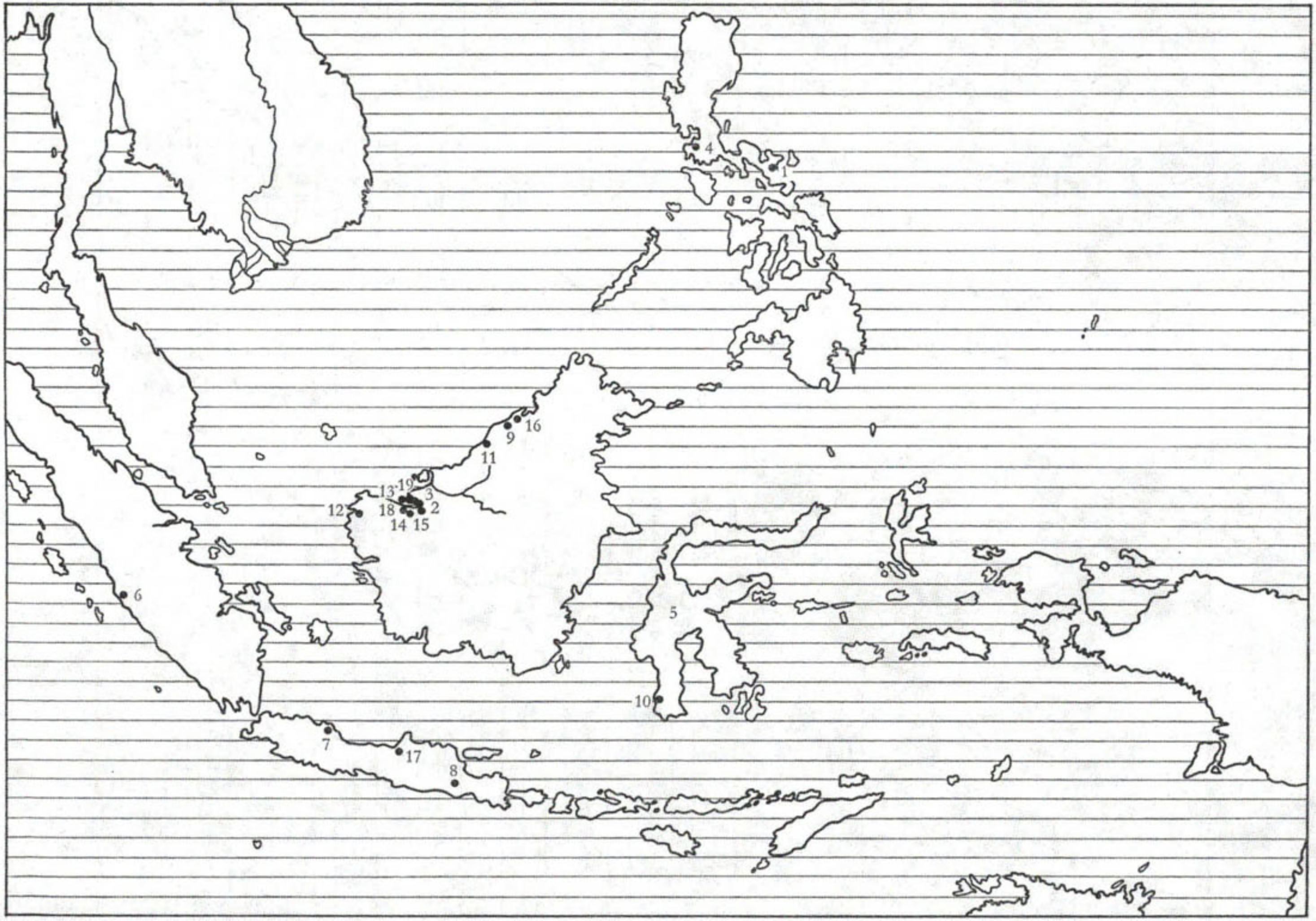
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Maps

Key to numbers

MAP I.

1	Akhsiket
2	Ak-terek
3	Alma-Ata
4	Andizhan
5	An-hsi
6	Annau
7	Aravan
8	Astana
9	Baku
10	Barköl
11	Bashadar
12	Beiuk-Dash
13	Berel
14	Blizhnie Elbany
15	Bolʹshaia Rekhka
16	Bukhara Oasis
17	Chao-wu
18	Chapigou Valley
19	Chersonesus
20	Chong-Tim
21	Dan-Dan-Uiliq
22	Dergachi
23	Domoko
24	Dushanbe
25	Dzhambul
26	Elets
27	Elisavetovskaia
28	Endere
29	Farhad-Beg-Yailaki
30	Fakuoka prefecture
31	Hami
32	Hirota
33	Iaz-Tepe
34	Ili Valley
35	Issyk-kul (lake)
36	Ivolginsk
37	Kamyshin
38	Kara-Bulak
39	Kara-dong
40	Kara-khoja
41	Karakol
42	Karashahr
43	Kara Tepe
44	Kargaly
45	Kashgar
46	Katanda
47	Kelermesh
48	Kenkol
49	Khadalik
50	Khara-khoto
51	Khotan
52	Kokcha
53	Korla
54	Krasnyi Kut
55	Kucha
56	Kul-Oba
57	Kushevat
58	Leninabad
59	Lop-nor
60	Lou-lan
61	Minusinsk
62	Miran
63	Mu-durbeljin
64	Mug
65	Murtuq
66	Nan-hu
67	Ninghsia
68	Niya
69	Niya River site
70	Noin Ula
71	Oglakty
72	Olbia
73	Panticapaeum
74	Pazyryk
75	Peking
76	Pendzhikent
77	Phanagoria
78	Pitsunda
79	Port Arthur
80	Povnoe
81	Riazhskii
82	Sagly Valley
83	Samarkand (Afrasiab)
84	Seven Brothers kurgan
85	Shibe
86	Sokuluk
87	Sosnovaia Maza
88	Su-chou

89 Talas region
90 Tanais
91 Tanegashima
92 Termez
93 Tersa
94 Togujai
95 Toprak-kala
96 Toro
97 Tuiakhta
98 Tumshuq
99 T'un-huang
100 Turfan

101 Tuva region
102 Tyra
103 Uch-kurgan
104 Ust-Poluy
105 Varakhsha
106 Wu-wei
107 Yarkand
108 Yotkan
109 Yü-men Barrier (Jade Barrier)
110 Yurung-Kash
111 Zaman-Baba
112 Zelenaya Gorka

MAP II.

1 Abu Simbel
2 Abu Sofyan
3 Aden
4 Aenum
5 Afrodito (station)
6 Aï Khanoum
7 Aila (Aelana)
8 Aksha
9 Alabanda
10 Aleppo
11 Alexandria
12 Ana
13 Anḍhur
14 Antioch
15 Apamea
16 Apologos
17 Aradus
18 Arak
19 Argo
20 Armazi
21 Arṭaxata
22 Ashkelon
23 Assur
24 Asyut
25 Atish-gah
26 Atotsi
27 Avdat
28 Avroman
29 Bab el-Mandeb
30 Babylon
31 El-Badʿ
32 Badr-i Neshande
33 Baghdad
34 Bahrein
35 Balkh

36 Ballana
37 Bashagra Charib
38 Basra
39 Begram
40 Beirut
41 Berenice (Trogodutica)
42 Bir Semna
43 Bir Wasif
44 Bishapur
45 Bisutun
46 Bori
47 Bost
48 Bostra
49 Bushire
50 Busiris
51 Byblos
52 Byzantium
53 Cabul
54 Caesarea (Cappadocia)
55 Caesarea (Palestine)
56 Cairo
57 Carrhae
58 Charax Spasinou
59 Choche
60 Cleopatris
61 Clusma
62 Coptos
63 Ctesiphon
64 Dakka (Pselkis)
65 Damascus
66 Dana
67 Dasht-i Navur
68 Dedan
69 Denderah
70 Der el-Bahri

71 Derbent
72 Diarbekir (Mardia)
73 Dido-Lalo
74 Dranda
75 Dren-Kala
76 Dura-Europos
77 Dvin
78 Ecbatana
79 Edessa
80 Edfu
81 El-ʿEla
82 Elephantine
83 Ephesus
84 Erevan
85 Ezion-geber
86 Failaka
87 Faras
88 Firka
89 Firuzabad
90 Forāt
91 Gabaga
92 Gaza
93 Gerasa
94 Giza
95 Gordium
96 Gur
97 Gvankiti
98 Hadda
99 Haifa
100 Hama
101 Ha'il
102 Halabiyeh
103 Hanun
104 Harbaqa
105 Hatra
106 Hawara
107 El-Heita
108 Hierapolis
109 Hiera Sycaminus
110 El-Higr
111 Hit
112 Homs
113 Hormuz
114 Hufhuf
115 Igdir
116 Ikhmindi
117 Iṣṭakhr
118 Jebel Adda
119 Jebel Barkal
120 Jebel Ghumaim
121 Jebel Haraza
122 Jebel Moya
123 Jebel Qeili
124 Jebel Ruheit
125 Jericho
126 Jerusalem
127 Jezirat Fara'un
128 Kalabsha (Talmis)
129 El-Kanaïs
130 Kandahar
131 Karanis
132 Karnak
133 Kawa
134 Kerma
135 Kharg
136 Khartoum
137 Khearbet Farouane
138 Khearbet Semrine
139 Khoramabad
140 Khor Rori
141 Kirovakan
142 Kish
143 Kldeeti
144 Kohna Masdjid
145 Kosh
146 Kuh-i Khwaja
147 El-Kurru
148 Latopolis
149 Leninakan
150 Leuce Come
151 Leucos Limen
152 Luxor
153 Malayer
154 Mari
155 Marib
156 Masjid-i Solaiman
157 Medain Salih
158 Medina
159 Memphis
160 Meroe
161 Merv
162 Miletus
163 Mohenjo-daro
164 Mons Claudianus
165 Mons Porphyrites
166 Mons Smaragdus
167 Mtskheta
168 Musawwarat es-Safra
169 Muza
170 Myos Hormos
171 Naga
172 Napata
173 Naucratis
174 Nehavend

175 Nessana
176 New Hormuz
177 Nineveh
178 Nippur
179 Nisa
180 Nishapur
181 Nisibis
182 Nokalakevi
183 Nurabad
184 Oka
185 Oxyrhynchus
186 Palmyra
187 Panopolis
188 Pasargadae
189 Patak
190 Pella
191 Pelusium
192 Pergamum
193 Persepolis
194 Petra
195 Philadelphia (Jordan)
196 Philadelphia (Egypt)
197 Philae
198 Philoteras
199 Pithom
200 Port Sudan
201 Ptolemais
202 Pul-i ʿArus
203 Qais
204 Qana
205 Qaṣr Ḥelqum
206 Qaṣr Ibrim
207 El-Qaṭif
208 Qir
209 Qual ʿeh Dukhtar
210 Qual ʿeh Gerina
211 Qual ʿeh Zohak
212 Qustul
213 Ras el-Khaimah
214 Rawwafah
215 Ruqba Medain
216 Sai (island)
217 Said Qala Tepe
218 Sakkez
219 Samarra
220 Samosata
221 San'a
222 Saqadi
223 Saqqara
224 Scythopolis
225 Sedeinga
226 Seleucia on the Tigris
227 Sennar
228 Serra
229 as-Serraʾ
230 Shah-ji-ki-Dheri
231 Shaikhan Dheri
232 Shamshir Ghar
233 Shellal
234 Shimbar Valley
235 Shotorak
236 Sidon
237 Singara
238 Siraf
239 Soba
240 Sotka-Koh
241 Sura
242 Surkh Kotal
243 Susa
244 Sutkagen-Dor
245 Syene
246 Taima
247 Takht-i Sulaiman
248 Tang-i Sarvak
249 Tanqasi
250 Tebtunis
251 Teheran
252 Tell Brak
253 Tell Hammam
254 Tell Rifaʿat
255 Tell el-Shughafiya
256 Tepe Choraghi
257 Tepe Yahya
258 Thaj Oasis
259 Theadelphia
260 Thebes
261 Timnaʿ
262 Toprak Kale
263 Tor
264 Trapezus
265 Tureng Tepe
266 Tyre
267 Ulukhanlu
268 ʾUmm es-Ṣalabih
269 Umm Usuda
270 Ur
271 Uruk
272 Wad-ban-Naga
273 Wadi Allaki
274 Wadi Beihan
275 Wadi Fawakhir
276 Wadi Feiran
277 Wadi Hammamat
278 Wadi Hauran

279 Wadi Naṣb
280 Wadi Sidri
281 Wadi Tuweiba
282 Wadi Umm Rowa
283 Wadi Umm Sideira
284 Wadi Umm Temeryim
285 Zafar
286 Zeugma
287 Zindan

MAP III.

1 Ahar
2 Ahichchhatra
3 Ajanta
4 Akkenpalli
5 Alangirpur
6 Allahabad
7 Amaravati
8 Amreli
9 Anuradhapura
10 Ara
11 Arikamedu
12 Athirala
13 Atranji Khera
14 Aurangabad
15 Bahal
16 Bairat
17 Bala Kot
18 Bangalore
19 Barbaricum
20 Barygaza
21 Bihar
22 Bilaspur District
23 Bodha-Gaya
24 Brahmagiri
25 Brahmapuri
26 Budinatham
27 Calicut
28 Cape Comorin
29 Ceilao
30 Chandraketugarh
31 Chandravalli
32 Charsada
33 Chirand
34 Chunar
35 Coimbatore
36 Colombo
37 Devnimori
38 Dewal
39 Dharanikonta
40 Dwarka
41 Eran
42 Eyyal
43 Gaiparti
44 Galle
45 Gilgit
46 Girnar
47 Gumala
48 Hastinapur
49 Hutti
50 Jalalabad
51 Junagadh
52 Junnar
53 Kalingapatam
54 Kaliyamputtur
55 Kanchipuram
56 Karle
57 Karur
58 Kathmandu
59 Kausambi
60 Kesarapalli
61 Kolhapur
62 Kondapur
63 Kosam
64 Kottayam
65 Kumrahar
66 Kurunegala
67 Lahore
68 Lothal
69 Maheshwar
70 Mallayapalam
71 Manikyala
72 Maski
73 Mathura
74 Mirzapur
75 Muziris
76 Nagari
77 Nagarjunakonda
78 Nasik
79 Nasthulapur
80 Navdatoli
81 Nellore
82 Nevasa
83 Noh
84 Paithan
85 Pandu Rajan Dhibi
86 Patna

87 Peshawar
88 Pollachi
89 Polonnaruva
90 Poona
91 Prabhas Patan
92 Pudukota
93 Rajbadidanga
94 Rajghat
95 Rajgir
96 Ramnagar
97 Rupar
98 Salihundam
99 Sanchi
100 Sanghao
101 Sanghol
102 Sengamedu
103 Sigiriya
104 Sirpur
105 Sisupalgarh
106 Skarah Dheri
107 Somnath
108 Sonegaon
109 Sonpur
110 Takht-i-Bahi
111 Tamluk
112 Tanjore
113 Taxila
114 Ter
115 Tondamanathan
116 Tripuri
117 Udayagiri
118 Ujjain
119 Vallabhi
120 Vellalur
121 Vidisa
122 Vinukonda
123 Vizagapatam
124 Yeseswaram

MAP. IV.

1 Adulis
2 Ambatomanoina
3 Ampasambazimba
4 Axum
5 Bambandyanalo
6 Barawa
7 Broederstroom
8 Buispoort
9 Cape Gardafui
10 Chibi Reserve
11 Chondwe
12 Comoro Islands
13 Dambwa
14 Dar es-Salaam
15 Dhlo-Dhlo
16 Djibuti
17 Eiland
18 Engaruka
19 Gedi
20 Gokomere
21 Gundu
22 Haoulti
23 Harmony
24 Ingombe Ilede
25 Isandra
26 Jebel Omori
27 Kalundu
28 Kansanshi
29 Kaskase
30 Khami
31 Kilaweni
32 Kilwa island
33 Kisimani Mafia
34 Kwale
35 Lake Victoria
36 Lalibela
37 Lamu
38 Leopard's Kopje
39 Lusu
40 Mabveni
41 Machili
42 Mafia
43 Magabeng
44 Mahilaka
45 Makandeni Mafingiro
46 Makandeni Mpungini
47 Malapati
48 Malazo
49 Manda
50 Mapungubwe
51 Matara
52 Merka
53 Mogadishu
54 Mombasa
55 Mount Kilimanjaro
56 Nairobi

57	Natchabiet
58	Olieboompoort
59	Palabora
60	Pangani
61	Pangani River
62	Pemba
63	Port Dunford
64	Port Sudan
65	Rooiberg
66	Rufiji
67	Rufiji River
68	Sarodrano
69	Se Fasher
70	Socotra
71	Sofala
72	Songa Mnara
73	South Pare Hills
74	Sterkspruit
75	Tanga
76	Tzaneen
77	Uitkomst
78	Umtali
79	Unguja Ukuu
80	Ungwana
81	Urare
82	Urewe
83	Usambara Mountains
84	Usangi Hospital
85	Vohemar
86	Yala Alego
87	Yeha
88	Zanzibar
89	Zimbabwe
90	Ziwa

MAP V.

1	Ankor Borei
2	Bam Kao
3	Ban Ang
4	Ban Soua
5	Ban Xot
6	Bukit Batu Lintang
7	Bukit Chuping
8	Bukit Meriam
9	Chaiya
10	Chansen
11	Dong Dau
12	Dong Si Maha Pot
13	Dong-son
14	Go Bong
15	Go Mun
16	Guak Kepah
17	Gunong Baling
18	Johore Lama
19	Kakhao Island
20	Kampong Sireh
21	Kampong Sungai Lang
22	Kedah Peak
23	Klang
24	Kok Charoen
25	Kota Tinggi
26	Kra, isthmus of
27	Kuala Lumpur
28	Kuala Pergau
29	Kuantan
30	Merbok Estuary
31	Na Khom
32	Nakorn Sri Thammarat
33	Non Nok Tha
34	Oc-eo
35	Pekan
36	Pengkalan Bujang
37	P'ong Tük
38	Pontian
39	Prah Pithu
40	Slim
41	Song Meng
42	Sungkai
43	Takuapa
44	Tengku Lembu
45	Thao Kham
46	Tikam Batu
47	Trang
48	Tui
49	U T'ong
50	Wieng Sra
51	Quan-Loc

MAP VI.

1 Bato Caves
2 Bongkissam
3 Bukit Maras
4 Calatagan
5 Celebes
6 Gunong Indrapura
7 Indramaju
8 Kediri
9 Kota Batu
10 Makassar
11 Niah
12 Sambas
13 Santubong Island
14 Sungai Buah
15 Sungai Jaong
16 Sungai Lumut
17 Semarang
18 Tanjong Kubur
19 Tanjong Tegok

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